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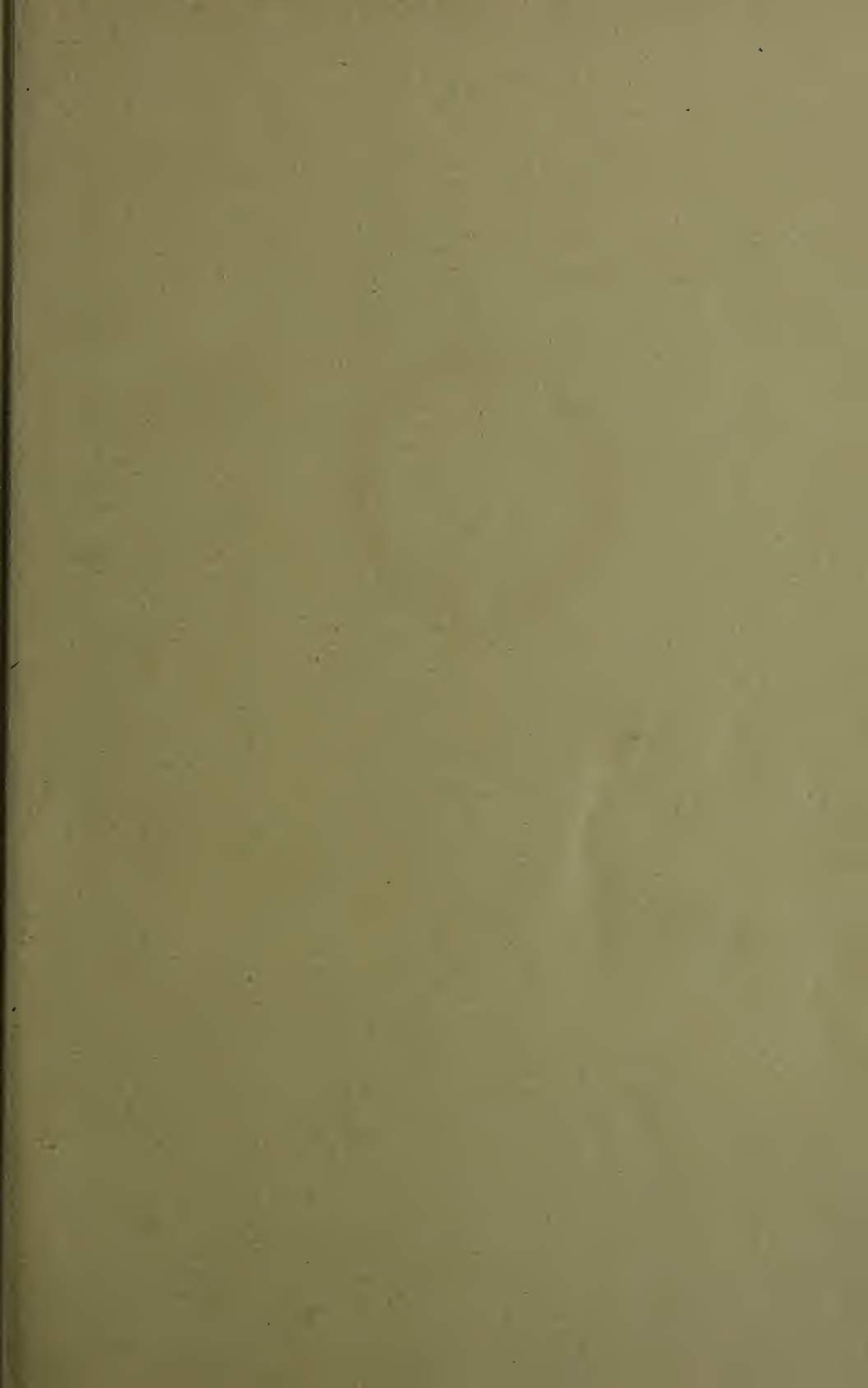


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CONTRIBUTORS TO VOL. XXXI.

JULY—DECEMBER, 1904.

BABLER, E. A., St. Louis,	- - - - -	149, 370
BROWN, J. Y., St. Louis,	- - - - -	86
CABOT, ARTHUR T., Boston, Mass.,	- - - - -	217
CHAPMAN, H. N., St. Louis,	- - - - -	31, 152
GELLHORN, GEORGE, St. Louis,	- - - - -	1
GORIN, GEORGE, St. Louis,	- - - - -	84
JOHNSON, W. L., St. Louis,	- - - - -	28
KEEN, W. W., Philadelphia,	- - - - -	288
MEISENBACH, A. H., St. Louis,	- - - - -	154
ROBINSON, BYRON, Chicago,	- - - - -	16
SHARPE, N. W., St. Louis,	- - - - -	300
SHOEMAKER, W. A., St. Louis,	- - - - -	379
SOLLY, S. E., Colorado Springs, Col.,	- - - - -	230
SPENCER, SELDEN, St. Louis,	- - - - -	145, 358
STEELE, A. J., St. Louis,	- - - - -	281
STERRETT, R. M., New York,	- - - - -	73
WATHEN, W. H., Louisville, Ky.,	- - - - -	76
ZAHORSKY, JOHN, St. Louis,	- - - - -	80, 345

ST. LOUIS

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No. I.

ORIGINAL CONTRIBUTIONS.

The Use of the Colpeurynter in Obstetric and Gynecologic Practice.

By GEORGE GELLHORN, M.D.,

ST. LOUIS, MO.

THE colpeurynter was brought to the attention of the profession some fifty years ago, but not until within rather recent years has a fuller appreciation of its possibilities been acquired and, as a result, a tangible extension of the indications for its use been recognized.

The colpeurynter was introduced into obstetrical practice by Karl Braun in 1851. It represents a simple rubber bag which terminates in a tube, 15 to 20 cm. in length. As the name indicates, the colpeurynter originally served only to dilate the vagina. In 1862, Tarnier and Barnes simultaneously devised a rubber bag for dilating the cervical canal. Tarnier's bag (*dilatateur intrautérin*), however, was too complicated and not effective enough for general use. Barnes' bag, modified by Fehling, is well known in this country. It is a fiddle-shaped rubber bag which is made in three sizes. A long, thin tube is attached to it.

Read before the Medical Society of City Hospital Alumni, April 7, 1904.

Systematic intrauterine application of the colpeurynter was first recommended by Schauta (1883). Maeurer increased the effect of the intrauterine colpeurynter (metreurynter) by traction from without. Stanislaus Braun advised the same procedure independently of Maeurer. Champetier de Ribes replaced the elastic colpeurynter of Braun by an unelastic cone-shaped balloon. His bag is also made of rubber, but has a silk lining to prevent bursting. When distended with water, it is as hard as a child's head and thus dilates the cervical canal better. There are a number of modifications of this bag by Duehrssen, Boissard, Coe, Voorhees and A. Mueller. These instruments all have the form of a funnel or inverted cone. The smaller end of the cone is prolonged and bent at an oblique angle, so that when thus introduced into the uterus, it coincides with the axis of the pelvis.

When the colpeurynter is introduced into the vagina, cervix, or uterus respectively, we speak of vaginal application or colpeurynter, cervical application and intrauterine application or metreurynter.

For sterilization, the colpeurynter is filled with hot water and first cleansed externally with soap and brush. Then, it is boiled in water or soda solution for five minutes. Previous to insertion, the contents are permitted to escape and, after introduction, are replaced with a fluid. Distention with air should be avoided as bursting of the balloon may lead to air embolism (cases of Delore and Thorn). To fill the balloon, I so far have used a 1 per cent solution of lysol. I have, however, shared the experience of others that the lysol gradually macerates the inside of the bag, and I shall, hereafter, use either boiled water (Strassmann), boric acid solution (Sobestianskij) or sterilized normal salt solution (Kurrer). The water may be pumped into the balloon with a large syringe, or may flow into the bag from a fountain syringe or irrigator under high pressure or else, as Kurrer, Foges and others advise, the colpeurynter may remain in constant connection with an elevated irrigator. The latter procedure was first recommended by Sobestianskij. During the labor pain, a part of the fluid is driven from the balloon into the irrigator, and after the uterine contraction has subsided, the water runs back into the balloon. Thus the uterus is subjected to a constant stimulation resulting in induction of contractions.

In order to prepare the patient, bladder and rectum should

be emptied. The external genitals and the vagina are cleansed in the usual way as before all other obstetrical operations. The patient lies in lithotomy position. The application is very easy. While one or two fingers of the left hand press the perineum downward, the colpeurynter rolled upon itself like a cigar is introduced into the vagina with a dressing forceps or, better, with a curved clamp with smooth branches.

For the cervical or the intrauterine application, the vagina is exposed by means of a speculum and a volsellum or muzeux is placed in the anterior lip. On gentle traction upon the latter, the external os may in some cases be pulled down so near the vaginal entrance that the folded colpeurynter seized with a long curved dressing forceps can be introduced into the cervical canal without touching the walls of the vagina. Should the cervical canal be too narrow, the smaller numbers of Hegar's dilators or Goodell's instrument may be introduced until the dilatation is deemed sufficient, a procedure which is easily carried out on account of the soft consistence of the pregnant uterus. The colpeurynter, then, is slowly passed through the cervical canal until the larger part of the bag is within the internal os if a Champetier bag is used, or until the constricted part, in case of a Barnes colpeurynter, is at the internal os. Now the dressing forceps is removed, and while the volsellum is released from the anterior lip, water is pumped into the balloon. Care should be taken to find out before the operation how much fluid is needed to distend the bag *ad maximum*. In proportion to the size of the balloon, the volume of fluid ranges from 400 to 750 cc. However, in filling the balloon after introduction, somewhat less water should be pumped in than in the test examination. Edgar has in two instances seen rupture of the uterus as proved by autopsy, caused by intrauterine explosion of overdistended Barnes' bags. After the colpeurynter within the uterus is sufficiently distended, gentle traction upon the tube having shown its satisfactory position, the tube is clamped off or the stop-cock closed, and the speculum is taken out. No definite rules can be given as to how long the colpeurynter should remain in place. The duration depends upon the individuality of the case. Biermer is of the opinion that the colpeurynter may stay in place with impunity as long as three days, and should only be removed if rise of temperature and severe pain—except labor pains, demand its withdrawal. Generally speaking, the effect of the

colpeurynter will have become manifest before that time, in other words, the bag will be expelled or the cervical canal is sufficiently dilated so as not to require the further presence of the balloon.

The effect of the colpeurynter, as mentioned above, is greatly increased by traction from without. If a slow and gradual dilatation be desired, a string is fastened to the tube or stop cock. To this string which is stretched across the foot of the bed, a weight is attached. I usually apply a traction of from one to two pounds upon Champetier's bag. A. Mueller successfully used a weight of six pounds.

Should a rapid dilatation be necessary, traction upon the balloon is exerted by the hand of the operator, and the bag is pulled through the cervical canal.

The question naturally arises which of these three varieties of the colpeurynter is preferable in daily practice. The colpeurynter of Braun, as we shall see later, is most serviceable in gynecologic work. In obstetrics, both Braun's bag and the colpeurynter of Barnes suffer from the one great disadvantage of their elasticity. Traction upon an elastic balloon produces a stretching and consequently a narrowing of the bag; it attains a more or less sausage-shaped form. It is, then, readily seen that such a bag is apt to slip out of the uterus before sufficient dilatation is effected. Furthermore, the possibility of bursting with all its consequences rather forbids traction upon the tube of an elastic bag, and yet, as we shall see presently, traction is almost always an indispensable part of the whole method. The colpeurynter of Champetier, on the other hand, is almost entirely free of these disadvantages. Its inelasticity warrants the constancy of its form after the distention of the balloon is completed, even though a strong traction be exercised. Its conical form, again, enables us to imitate closely Nature's method of dilatation. The cervix is dilated from within outward according to the natural process until the cervix is completely abolished and the external os *ad maximum* dilated. Finally, the danger of bursting is considerably reduced. For all these reasons, most authors concede the superiority of Champetier's colpeurynter. Edgar comparing the relative merits of the three forms of colpeurynters says that the consensus of opinion inclines to the Champetier as being the most effective, and Bosse emphatically states that "in principle, the balloon of Champetier is the metreurynter par excel-

lence." I myself use for intrauterine application exclusively the Champetier, but also for vaginal use, I regard the latter as preferable to any other colpeurynter.

The colpeurynter is of service both in obstetric and gynecologic practice. In obstetrics, the colpeurynter may be used—first, during pregnancy; second, during labor; third, in the puerperium.

The principal indication for the use of the colpeurynter during pregnancy is the induction of premature labor. We are here not concerned with the indications to interrupt an existent pregnancy, but have to deal only with the methods of inducing premature labor. Of the numerous methods recommended to produce uterine contractions, the artificial rupture of the membranes and the intrauterine injection of water or glycerin have been abandoned on account of their sometime grave consequences. As, furthermore, electrization of the uterus and hot, or alternately hot and cold vaginal douches are altogether too uncertain in their results, the colpeurynter, on the whole, competes only with tamponade of the vagina, cervix and uterus, and Krause's method of catheterization of the uterus. The former method of tamponade is very painful and, as a rule, has to be repeated several times. Each repetition increases the danger of infection and involves great inconvenience to both patient and physician. Moreover, the results are by no means encouraging.—(Gaertner).

Krause's method of introducing a bougie into the uterus is, in my opinion, overrated. The method is not without danger and does not yield uniformly good results. To select off hand from the multitude of statistics, both Beuttner and Lamprecht found that with this method one to eighteen days elapse before complete dilatation of the os occurs. Biermer, Kleinhans and Bosse agree that the bougie method accomplishes in days what metreurysis accomplishes in as many hours. My own observations are in accord with the statements of these last named authors. I shall refrain from giving extended descriptions of cases, but shall limit myself to a short consideration of two cases which have come under my care within the last two years:

The first patient suffered from a myocarditis which in the previous two deliveries had produced serious complications. She now desired interruption of the existing third pregnancy. I first consulted Dr. J. E. Haggard, of Lincoln, Neb., and Dr.

H. C. Buswell, of Buffalo, N. Y., who had attended her previously. Since their opinion was in favor of interruption of pregnancy, I asked Dr. Fischel's advice, who in consideration of the existing myocarditis also suggested artificial abortion. February 9, 1902, a bougie was introduced into the uterus and the method was repeated with two bougies two days afterwards. In the meantime, tamponade of cervix and vagina was employed. The fourth day, Braun's colpeurynter was inserted into the vagina. All these attempts of inducing labor pains having remained futile, Champetier's bag was finally introduced into the uterus on the afternoon of the fifth day. Three hours later a weight of 3 pounds was attached to the colpeurynter, and after another hour the weight was increased by one pound. Labor pains commenced soon after the first weight was attached and grew continuously in strength until the fetus was expelled, less than eight hours after the insertion of the colpeurynter and four and a half hours after the application of the weight. The prompt action of the colpeurynter, as compared with the other two methods applied in this case, was evident.

The second case was a patient of Dr. Goebel and Dr. Greiner. She was in the 7th month of her 10th pregnancy when, on December 13, 1903, she was seized with uremic convulsions and amaurosis. I saw the patient four days later when the attack had subsided and the general condition had somewhat improved. There was still a marked anasarca, the urine contained $\frac{1}{2}$ per cent albumin, and microscopically all varieties of casts, red blood corpuscles, kidney epithelium and uric acid crystals. The patient stated that the fetal movements had not been noticed for the last six days; while fetal heart-beats had not been found for about five days. We agreed upon induction of premature labor. The indication for interruption of pregnancy was very clear in this instance. We had to deal with a case of grave nephritis, with a dead child. As there were no convulsions at the time, great haste was unnecessary. Moreover, the accouchement forcé would have necessitated a general anesthesia which, in its turn, was strongly contraindicated on account of the general condition of the patient. We, therefore, decided to employ metreurysis. The cervix was easily and rapidly dilated with Goodell's dilator until the bag of Champetier could be introduced into the uterus. A weight of two pounds was attached to the colpeurynter in the manner

above described. Four hours later, the colpeurynter was expelled, after which strong regular labor pains set in. Nine hours later, thirteen hours after the insertion of the intrauterine colpeurynter, the spontaneous birth of a dead fetus in breech presentation took place. The patient had an entirely normal lying-in period; the anasarca disappeared rapidly under appropriate treatment, and a month ago, when last seen by Dr. Greiner, her subjective condition was very satisfactory. Of course, she still has her nephritis.

This case well illustrates how serviceable is Champetier's colpeurynter. In spite of her serious condition interruption of pregnancy was performed easily and without any inconvenience to the patient. There is a remarkable unanimity of opinion on the usefulness of the colpeurynter. All writers who have employed the intrauterine colpeurynter agree that of all methods of induction of labor, metreurysis is the safest, promptest and superior to all other procedures.

Strassmann fills the intrauterine balloon with water of the temperature of the body. I believe, however, that by using a fluid of 110°F. the mechanical effect of the colpeurynter can be greatly increased.

In order to induce premature labor, Baumm combines metreurysis with intrauterine injection of glycerin. Instead of using rubber bags, he introduces the ordinary condom (gold-beater skin) into the uterus and fills it with 100 cc. of glycerin. When this balloon is expelled a few hours afterward, it is then much larger; it contains from two to three times the original volume of fluid (which, however, now consists of but a very small proportion of glycerin), for an osmotic exchange between the glycerin within and the aqueous fluid without the bag has taken place. Labor pains commence, as a rule, from ten minutes to two hours after insertion. Should they die away, the diluted glycerin is emptied and new fluid is injected into the condom. Serious consequences following the intrauterine use of glycerin in this manner were not observed by Baumm. I do not know whether this method has been applied by others.

We have spoken so far of the service rendered by the colpeurynter in interrupting pregnancy. A still larger field of usefulness is open to the colpeurynter during labor. In this connection we have to consider in the first place accouchement forcé. By forcible delivery or accouchement forcé we under-

stand, according to Edgar, three operations: First, the complete, rapid instrumental or manual dilatation of the cervical canal; followed, second, by either combined or internal version or the application of the forceps; and third, the immediate extraction of the child. The principal indication for the *accouchement forcé* is furnished by eclampsia. This is not the occasion to discuss whether, and when, it is necessary to empty the uterus in eclampsia. The question what course of treatment to pursue in this dangerous affection is as yet by no means definitely settled. However, the important fact is generally conceded that after delivery the eclamptic convulsions, as a rule, become rarer or may even cease. Quite recently the dilator of Bossi and its modifications seemed to eliminate all other methods of forcible delivery such as the classical Cesarean section, the vaginal Cesarean section of Duehrssen, dissection of the external os, high forceps, perforation, etc. But as experience with Bossi's instrument became more and more extended, doubts as to its usefulness appeared, and the most recent literature contains quite a number of reports of cases in which dilatation after Bossi was followed by extensive lacerations of the soft parts and serious hemorrhages. It has escaped the attention of the enthusiastic advocates of Bossi's method that the dilator accomplishes a maximal stretching, but not a physiologic dilatation of the cervical canal.

Therein lies the disadvantage of instrumental dilatation as compared with dilatation by rubber bags. The colpeurynter of Champetier imitating closely the normal mechanism of the first stage of labor, not only dilates the cervical canal till the external and internal os are stretched *ad maximum* and disappear, but also shortens the cervix itself till it, too, is abolished. Of course, the advantage of this entirely physiologic dilatation of the cervical canal by means of the colpeurynter would be of doubtful value if it were established: First, that in eclampsia the greatest possible rapidity is always imperative; second, that the use of the colpeurynter consumes too much time; and third, that with the methods of rapid and forcible delivery better results are obtained than with other methods of delivery.

The first of these three questions whether in eclampsia delivery should always be hastened as much as possible seems easy of answer. But the fact that a large number of authorities are strongly opposed to each and every operation, proves

that too rapid a confinement is by no means imperative. Ahlfeld says that only when labor has progressed far enough to permit easy termination, without a serious operation, this should be done. Furthermore, if the soft parts are not yet sufficiently dilated, expectant treatment is almost always followed by good result. Even in those cases in which the convulsions occur in alarming frequency before labor has begun at all, he recommends the same expectant treatment. I have observed in Jena a case of a most severe eclampsia which was successfully operated upon by Cesarean section nine hours after the appearance of the first convulsions and after eight attacks of the most alarming character had occurred.—(Hillmann). This case, which is by no means unique, shows convincingly that a favorable result may be obtained even without great haste.

Regarding the second question whether the use of the colpeurynter for complete dilatation of the cervix consumes too much time, I may state that from reports in literature the duration seems to average from six to eight hours. The conditions in the individual case and the intensity of the traction exercised naturally produce considerable variance. A few references may serve to illustrate this point. Boissard condemns the colpeurynter of Champetier in that it brings labor to an end faster than a spontaneous delivery should be, namely, within eleven hours. Gerich succeeded in extracting the balloon, and thus completely dilating the cervical canal, in four to seven minutes with a strong colpeurynter and in three-quarters, one and three hours, respectively, with an elastic colpeurynter, though the conditions of the cases were otherwise unfavorable. Rapidity of dilatation, therefore, can, to a great extent, be regulated to meet the desire of the physician. Mueller, in one case, required about ten minutes to dilate the cervix with his modification of Champetier's colpeurynter, and L. Meyer, of Copenhagen, stated at the Ninth Congress of the German Society for Gynecology in Giessen, 1901, that the complete dilatation of the os, even when the cervix was still existent, is, as a rule, accomplished in from six to twenty minutes. However, it should be borne in mind that such rapidity of dilatation may, especially in low insertion of the placenta, lead to lacerations of the cervix as reported by Hink and Duehrssen.

With respect to the third question whether the methods of forcible delivery obtain better results than other modes of

treatment, I refer to the Transactions of the Congress just mentioned. During this session the majority of the speakers on the treatment of eclampsia expressed themselves very decidedly in favor of the colpeurynter. To use the dictum of Loehlein: By the adoption of metreurysis we have made the most decided progress in attaining a method for the timely and appropriate termination of labor.

From the foregoing remarks it is evident that the colpeurynter, especially the one devised by Champetier, occupies a legitimate position in the treatment of eclampsia. At least, its application is indispensable as a preparatory method in order that other obstetrical operations may be facilitated which otherwise are not to be performed without additional dangers to the mother.

Also in placenta previa, an extensive use of the colpeurynter of Champetier promises considerably better results for both mother and child. In these cases, the best method consists in first rupturing the membranes and then introducing the balloon into the amniotic cavity. In this manner the colpeurynter either accomplishes directly the delivery or, on the other hand, prepares the soft parts for version and extraction. In fact, metreurysis forms the most effective rival to the Braxton-Hicks method of combined version. While the latter is directed toward saving the life of the mother by checking hemorrhage, metreurysis considers also the claims of the child. In metreurysis, the metreurynter, instead of the hips and thigh of the child in the Baxton Hicks plan, is used as a pressure tampon upon the separated portion of the placenta. The colpeurynter method is much the easier; leads, if the necessary precautions are taken, less frequently to deep lacerations of the cervix and is not so dangerous to the child. According to the statistics of Kuestner and Keilmann, 60 to 65 per cent of living children are delivered.

Again, hemorrhages in the first stage of labor resulting from premature separation of the placenta can be treated by the intrauterine colpeurynter. This increase of intrauterine pressure prevents further hemorrhage from the separated part of the placenta and hastens delivery.

Vaginal application of the colpeurynter is indicated as a prophylactic agent against premature rupture of the membranes; or, if the latter has already occurred it serves as a substitute for the ruptured bag of waters. For the latter

reason, I have applied Champetier's balloon twice within the last two months. The first case was a primipara, aged 30 years, with very narrow vagina. The child was in breech presentation, the bag of waters was ruptured, the cervix had almost disappeared, the os was of the size of a silver dollar. The colpeurynter of Champetier was inserted into the vagina at 8 a.m. and connected with a weight of $1\frac{1}{2}$ pounds. About four hours later complete dilatation of the os and expulsion of the balloon together with considerable stretching of the pelvic outlet took place, and a very large child was delivered without difficulty and without laceration of the perineum, though both arms had to be brought down. In the second case the membranes had prematurely ruptured while the cervix would admit only two fingers. The labor pains though strong and regular were not effective in dilating the cervix. Champetier's bag was inserted into the vagina at 10 a.m. and a traction of 2 pounds was applied. Two hours later the colpeurynter was pulled through the vaginal entrance and it was found then, that the cervix was completely dilated and the head rested upon the pelvic floor.

Schauta recommends the vaginal use of the colpeurynter in prolapse of the umbilical cord and in transverse position in order to push back the anterior shoulder.

Furthermore, the colpeurynter may be used in uterine inertia and, finally, in cases of narrow vagina. Especially in cases of rigidity of the soft parts in old primiparæ, the use of the colpeurynter and the application of permanent traction will prevent the otherwise inevitable deep perineal lacerations, or will, at least, limit their extent.

The contraindications of metreurysis during labor are surprisingly few. It can not be denied that the possibility exists of pushing the head sideward by the intrauterine balloon. I am inclined, however, to believe that this accident can be prevented by the choice of a colpeurynter of medium size. Should the head have been deflected, the patient should be permitted to lie on the side toward which the head will gravitate when it again assumes its normal position coincident with the withdrawal of the metreurynter. If this automatic correction should not obtain, internal or external version is indicated. More dangerous is the prolapse of the umbilical cord after expulsion of the balloon. This can not be prevented, but in such a case the preceding metreurysis has paved the

way for a successful interference, because the stretched soft parts afford sufficient room for any operation. In such a case, version and extraction are immediately to be made. In a few cases metreurysis has been made use of in internal post-partum hemorrhages. Notwithstanding the favorable result in Switalski's case, I doubt whether in a complication of this sort metreurysis is to be recommended. The case of Schwarzenbach furnishes a warning example. An excessive speed in withdrawing the colpeurynter through the cervical canal may lead to deep lacerations of the cervix, especially if the placenta has a low insertion, and to the danger of atonic hemorrhages.

In the puerperium, the use of the colpeurynter is limited to but one condition, which fortunately is not very frequent, viz, the inversion of the uterus. In cases of fresh puerperal as well as chronic inversion, our aim is to accomplish reinversion. In all cases, we should first resort to manual reposition. This failing colpeurysis is indicated. Special colpeurynters have been devised for this purpose, for instance, the cone and funnel-shaped balloon of Kock's, but for ordinary purposes Braun's bag will prove serviceable. Only when bloodless methods fail, an operative mode of treatment is to be utilized.

So much for the use of the colpeurynter in obstetrical practice. In gynecology, the colpeurynter has found a wide field of application, especially in those plans of local treatment which are called "*Belastungstherapie*" — pressure weight treatment. In this presence, several years ago, my friend, Dr. Ehrenfest, spoke in detail on this mode of treatment, and I follow his description of the general technic. Two colpeurynters of Braun are connected by means of a stop-cock made of hard rubber, so that the whole length of the apparatus is about 60 cm. Before connecting this apparatus, one of the colpeurynters is filled with 1000 grams of metallic mercury, while from the other the air is evacuated by compression of the bulb. The patient is placed in a comfortable recumbent position on a bed or couch, the foot of which is elevated about 50 to 60 cm. The empty colpeurynter is folded about itself, introduced into the vagina and placed against the part desired. It is retained in this position by means of two fingers, while the filled colpeurynter is elevated with the other hand, allowing the mercury to flow downward. In the beginning it is advisable to use not more than 250 to 500 grams, and only after the

patient has become accustomed to this treatment, may we increase the amount until the upper colpeurynter is completely emptied. The closed valve prevents the return flow of the mercury. A flat linen bag containing 1,500 to 2,000 grams of shot is placed on the lower abdomen.

This form of the mercury colpeurynter as devised by Funke and improved by Halban is very simple and quite suitable for daily practice. There are a number of modifications which, with exactitude, determine the degree of the intravaginal pressure, and others which combine the pressure of mercury with that of air, but they are somewhat complicated and consequently not so serviceable for the use of the general practitioner.

The patient usually remains in the dorsal position, but should it become necessary to turn the patient upon either side, the abdominal bag can be kept in position by means of a bandage. To remove the filled colpeurynter from the vagina, the patient is permitted to sit upright, when on opening the valve and lowering the empty colpeurynter, the mercury is readily transferred from the former to the latter.

The mercury colpeurynter was primarily devised for the treatment of chronic pelvic exudates and, in reality, fulfills all expectations. In these cases, hot water or hot air treatment must be applied first, and when the exudate is somewhat softened under the influence of the heat, it is crushed, so to speak, between the weight from above and the pressure from below and thus absorption is encouraged. In this manner it constitutes a form of forced massage and serves as a substitute, in many cases, for the laborious manual massage of Thure Brandt.

The mercury colpeurynter may also be used to stretch and break old and firm adhesions; though I must confess that my own experience in this field has not been very encouraging. It has furthermore, been used for the stretching of cicatrices following cervicovaginal lacerations. In this variety of lesions, however, I should prefer excision of the scars.

In the treatment of strongly-adherent retroflexions of the uterus I follow the lead of Olshausen and resort to operation. But for the reduction of imobile or but slightly adherent retroflexed uteri, the mercury colpeurynter seems to me the ideal method. I have almost entirely abandoned the manually reposition of the retroflexed uterus for the latter, even if successful, produces annoying and lasting sensitiveness of the abdominal

wall. As a rule, I begin with Kuestner's method (reposition by means of a vulsellum placed in the anterior lip) and if I do not succeed at once, I introduce the colpeurynter. For this purpose, counter-pressure upon the abdomen by the shot bag is not needed. In Trendelenburg's posture, the mercurial weight does not press against the sacrum but it exerts its influence in the direction of the pelvic axis and tends to push the uterus in the same direction. The uterine body thus forced out of the lower pelvis, passes the promontory and glides into the abdominal cavity. I usually have succeeded the first time in replacing the uterus. I may add, that since the time I began to make systematic use of the colpeurynter, the number of irreducible uteri, in my practice, has surprisingly decreased. Should the colpeurynter also fail, operation for retroflexion is definitely indicated.

Under these circumstances it is evident that the colpeurynter is a powerful aid also in replacing the retroflexed pregnant uterus and may often prevent further operative interference with this dangerous condition. Finally, there are several reports in literature of excessive vomiting of pregnancy in which the mercury colpeurynter relieved the existent condition by pushing the uterus upward, and thus removing pressure upon the pelvic ganglia.

This, however, is not a complete list of the indications for the use of the colpeurynter in gynecology. Huppert, for instance, successfully applied the colpeurynter in vaginismus in order to stretch the entrance of the vagina. He filled the colpeurynter with gradually increasing quantities of water and found, after continuing this treatment during several weeks, that intercourse took place easily and without any pain.

Neugebauer, in laparotomies, inserts a colpeurynter into the vagina and distends it with water *ad maximum*. The pelvic organs are thus elevated and brought nearer the abdominal incision so that operative attack upon them is greatly facilitated.

Viertel in examining the bladder, connected his cystoscope with a colpeurynter filled with water and intensified the distention of the bladder whenever necessary.

Such technical detail, however, extends beyond the scope of my theme. It has been my desire to call attention to this simple instrument which the general practitioner may use with the greatest advantage in his daily work.

To sum up, the indications of the colpeurynter in obstetrics are:

1. Induction of premature labor.
2. Eclampsia
3. Placenta previa.
4. Hemorrhages in the first stage of labor due to premature separation of the placenta.
5. Premature rupture of the membranes or as a prophylaxis against this accident.
6. Uterine inertia.
7. Prolapse of the umbilical cord.
8. Transverse position.
9. To widen the soft parts, especially in old primiparæ and,
10. Inversion of the uterus.

In gynecology, the colpeurynter, mainly in the form of the pressure weight method, is indicated:

1. In the treatment of inflammatory exudates and their residua in the pelvis.
2. For the reposition of the retroflexed uterus, pregnant or non-pregnant and,
3. In the treatment of cicatrices following cervicovaginal lacerations.

In conclusion, permit me to state that it is my belief that the colpeurynter should be found in the obstetrical bag of every practitioner and that in the daily gynecologic work the colpeurynter forms one of our most valuable therapeutic aids.

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The Vesical Trigone.

Trigonum Vesicæ.—Its Anatomy and Physiology.

By BYRON ROBINSON, B.S., M.D.,

CHICAGO, ILL.,

HISTORICAL.

EARLY anatomists recognized the peculiar triangle formed at the base of the bladder by the distal ends of the ureter and the internal orifice of the urethra.

Giovanni Dominico Santorini (1681-1734), an Italian anatomist, mentions it in his posthumous works published in 1775. It was not accurately described until 1753, when Dr. Joseph Lieutand (1703-1780), of Paris, France, laid his investigations before the French Academy in the form of a thesis. Since 1753 the vesical triangle has passed under the eponym "Trigonum Lieutandi." The following description will chiefly apply to a typical vesical trigone.

THE FORM OF THE VESICAL TRIGONE.

At the base of the vesica urinaria there exists two distal orifices of the ureters and the internal orifice of the urethra. Lines drawn from these three orifices form practically an isosceles triangle, termed the trigone of the bladder. The trigonum vesicæ has the form of a concave bordered triangle. The three well-marked borders of the triangle are slightly elevated and the central surface slightly depressed. The vesical trigone represents an elevated triangular mucous plateau in the base of the bladder.

DIMENSIONS.

The vesical trigone is very variable in size on account of the state of the bladder wall. I would say the trigone averaged 1 inch in length on each side. However, it varies one-half its usual dimension. In the distended bladder I have noted the distal ureteral orifices separated 3 inches. The dimensions of the projecting or elevated trigonal mucous plateau possessed an individual variation.

SURFACE.

The trigonal surface is practically an elevated foldless plateau. It presents a shallow depression in the center. Closely adjacent to the internal urethral orifice the vesical mucosa is projected into some rather fine folds which converge at the ureteral orifice. The striking feature of the trigonal surface is its smooth, practically foldless mucosa which is in direct contrast to the remaining wrinkled vesical mucosa. The ureters terminate in the trigone as half cylindrical diagonally transverse projections. As the bladder becomes distended the projecting ureters gradually fade to a flattened surface.

COLOR.

The color of the trigone is darker than the remaining surface of the bladder on account of the richness of the vascular supply. The trigone presents a yellowish brown while the remaining vesical surface appears grayish-red. Under the Nitze magnifying cystoscope the trigone will appear somewhat pale in color, but on suprapubic incision of the bladder the trigone appears quite red.

BASIS TRIGONI.

The elevated linear mucous ridges of the trigone with its central surface depression presents striking borders. The proximal (dorsal) border is called the base of the trigone. This ridge is formed by the diagonally transverse vesical mucous ridges projected by the musculature of the ureters. The ureteral muscles aid in forming the trigonal base. The base of the trigone is formed by the *plica ureterica* of older anatomists. The dimension of the base of the trigone, or prominence of its outline depends on the size of the mucous ridge projected by the ureters and is quite variable. The *plicæ uretericæ* seldom meet in the median line with undiminished size.

INCISURA TRIGONI.

When the plicæ uretericæ approach each other in the median line markedly diminishes in size a depression or notch appears in the middle of the trigonal base, termed incisura trigoni.

The sharply-defined concave, linear, elevated base of the trigone presents a direct contrast to the wrinkled folded mucosa of the bladder fundus easily detected in autopsy or by the cystoscope. The base of the trigone is not so sharply marked with the distended bladder as the vesical mucous ridges become smoother and more effaced.

PLICÆ URETERICÆ.

Extending transversly from one distal ureteral orifice to the other is a smooth curved ridge which is caused by the presence of transversely coursing muscular bundles lying immediately beneath the vesical mucosa. The lateral segments of this ridge are termed *plicæ uretericæ* and are produced by the terminal portions of the ureters as they traverse obliquely the vesical wall.

MERCIER'S BAR (1811-1882).

This bar is the ridge of submucous tissue which bounds the trigone proximally or dorsally. It is practically the base of the trigone.

AREA URETERICA.

When the space between the plicæ uretericæ becomes more than a notch or incisura trigoni by distension of the bladder it may be called area ureterica. In the evacuated bladder the area ureterica is limited in dimension.

LATERAL TRIGONAL BORDERS.

The lateral trigonal borders present a medianward concavity. They present marked linear mucous ridges according to the developmental dimension and individual variations of the trigone. The distinct lateral border is formed of the ureteral muscles and presents a contrast to the adjacent marked vesical mucal folds. The lateral border extends from the distal ureteral orifice to the orificium urethræ internum.

UVULA VESICÆ.

The ventral end of the trigone presents a thickening of the mucosa immediately previous to the internal orifice of the urethra. Lieutaud designated this space as the *Leueta vesicale* or *uvula vesicæ*. It is a flat oval prominence and continues in the male urethra by a ridge with the crista urethralis. In women the uvula is gradually effaced in the proximal third of the urethra. The uvula is small in the normal bladder. It is composed of hypertrophied trigonal mucosa.

FOSSA RETROURETERICA.

Since the trigone presents an elevated plateau at the base of the bladder with markedly-defined borders there will be found, especially dorsal to the basis trigoni, a depression or fossa. The space immediately dorsal to the base of the trigone the French anatomists designate as the *bas fond*.

In young subjects there is a well-defined transverse groove immediately dorsal to the base of the trigone. The fossa retrouterica becomes, in older subjects, more like an oval depression—more sacculated.

PLANUM PARATRIGONALE.

Bilaterally adjacent to the borders of the trigone there exists two fields of vesical mucosa smoother than its neighboring mucosa, almost similar to the mucosa of the trigone itself, however, the trigonal mucosa is redder and more elevated. The mucosa of the paratrighonal field is similar in character to that immediately proximal to the internal urethral orifice. It is smoother and more foldless than the other vesical mucosa.

AREA PREURETHRALIS.

This area lies immediately proximal to the internal urethral orifice. It is composed of fine longitudinal mucous folds which converge toward the urethral orifice. It is frequently of a red color and congested especially on the dorsal surface, perhaps it may present some pigmentation.

RECESSUS LATERALIS VESICÆ.

If one incises the proximal end of an evacuated bladder there will appear on each side of the trigone a lateral space of varying dimensions, which Waldeyer terms the recessus later-

alis vesicæ. The lateral recess may be of some practical value during the employment of cystoscopes which demand air or an evacuated bladder for focal vision.

THE DISTAL URETERAL ORIFICE.

A good idea of the vesical ureteral orifice may be obtained if one takes the shaft of a feather, and while compressing it laterally, cuts it obliquely to form a quill pen or a tooth pick. The first oblique incision on the compressed quill resembles almost exactly the form of the distal or vesical ureteral orifice. The distal ureteral orifices are the most important landmarks in the bladder.

The distal ureteral orifice is visible to the naked eye, generally located on a mammilliform process at the proximal lateral angle of the trigonum vesicæ. Sometimes it does not present any elevation but, on the contrary, a depression in the vesical mucosa.

In the knee and chest position the ureteral orifices may project prominently with the orifices presenting at the median surface of the ureteral elevation.

The vesical trigone is more injected with blood than the remainder of the bladder.

The ureteral orifice may be almost invisible or a faint streak like the water line on paper.

Its form is generally an obliquely lateralward-directed oval slit one-eighth of an inch in diameter, with the most acute point of the oval pointing distalward. The orifice may, however, be rounded, punctiform or like the beak of a flute. In the last condition the ureteral orifice is limited proximally and distally by a curvilinear mucous fold, in the form of a valve, constituted by the contact borders of the mucous folds. An extreme illustration of this valve, in the form of a bridle rein, is noted in the upper left-hand figure (Fig. 1), surrounding an oblique ureteral orifice. One can easily see the advantages offered by this mechanical arrangement to facilitate catheterization. The elevated ridge produced by the muscle of Jurie, the intraureteral muscle connecting ureteral orifices, aids catheterization.

The ureteral orifices occupy the proximal lateral extremity of the base of the trigonum vesicæ, and a slight lateral mucous ridge exists which facilitates the introduction of the catheter.

The thickened linear mucous ridge connecting the ureteral orifices at the base of the trigone is slightly convexed distalward, which again facilitates the use of the catheter. In some cases the cystoscope demonstrates simply a delicate, fine mucous slit which may be so delicate that one can not locate it save by the projecting urinal stream. This thread-like seam of the ureteral orifice doubtless acts as a valve to prevent urinal regurgitation. A distended, hardened bladder presents the urinal seam accurately in contact. The ureteral orifice does not exactly resemble the orifice of the ductus bilis, which is circular and possesses a kind of hood. In some cases of ureteral catheterization the orifice is so accurately coapted that one must engage the ureteral catheter by probing—testing where it will enter.

ORIFICUM URETHRÆ INTERNUM.

The urethral orifice is the same with evacuated as with distended bladder. It represents a funnel-formed depression in the bladder lumen. Sometimes one may observe that the trigonal mucosa courses in fine converging ridges distalward into the internal urethral orifice. Ventral to the orifice lies the vesical musculature, dorsal lies the ureteral musculature which belongs to the trigone.

The internal urethral orifice is one of the most important landmarks in the bladder and lesions are described about it as a standard.

THE TRIGONUM VESICÆ IN WOMAN.

The cystoscope demonstrates as well as dissection that the vesical trigone is less prominent in woman than in man. The depression in the trigone is, however, more developed than in man. It appears that the ureteral orifices in woman are relatively wider separated than in man. To secure correct views of the trigone in woman one should examine both with the Nitze cystoscopic inspector which magnifies vision by mirror reflection, and also by the Brenner cystoscope, which gives direct vision.

STRUCTURE OF THE TRIGONE.

The essential structure of the trigonum vesicæ consists of:

1. The terminal muscularis of the ureters distributed, fan-shaped, through the vesical triangle.

2. A powerful fibrous mucosæ permitting practically no mucous folds on the trigone.

3. The failure of a submucosa.

4. The muscular bundles of the trigone are smaller in dimensions than those of the vesical parietes, however, the trigonal bundles lie closer in a more compact mass than those of the bladder.

5. Attention should be called to the independence of the trigonal muscularis and its separate disconnection, independence in function from the vesical muscularis. Of course, connection exists anatomically between the trigonal and vesical muscularis.

THE VESICAL TRIGONE IN ANIMALS.

Limited literature exists on this subject within my command, with the exception of some brief notes by Professor W. Waldeyer and Joseph Griffith. I examined the trigone of horse, dog, bovine, sheep, cat, pig, monkey, baboon, rabbit, guinea pig and other animals.

Griffith announces that he had found the trigone as a distinct structure in man only and some monkeys, and he concluded that the trigone had some relation to the erect posture.

To this opinion I can not agree. I found that the trigone of animals which I examined agreed in structure and external appearance as an individual organ almost exactly with that of man and higher apes. The vesical triangle is similar in *location* to that of man, *i.e.*, at the base of the bladder; it is similar in its *muscularis*, *i.e.*, consisting of terminal distribution of ureteral muscularis; it is similar in *mucosa*, *i.e.*, a powerful fibrous mucosa exists and lacking in submucosæ. The mucosa is also practically a foldless membrane. The distal ureteral orifice of animals is more elevated than that of man and the ureters project larger transverse mucous ridges in the bladder. In short, the vesical trigone of animals and man resemble each other in external appearance, location, structure and function.

In detail the vesical trigone of animals resembles that of man: It is an elevated mucous plateau, foldless on the surface, it has an area ureterica, planum trigonalis, incisura trigoni, has a regular triangular form, a basis trigoni. The trigonum vesicæ of the golden-faced baboon resembles almost exactly that of man. The transverse vesical mucous ridges projected into the bladder by the ureters are more prominent in animals than that of man.

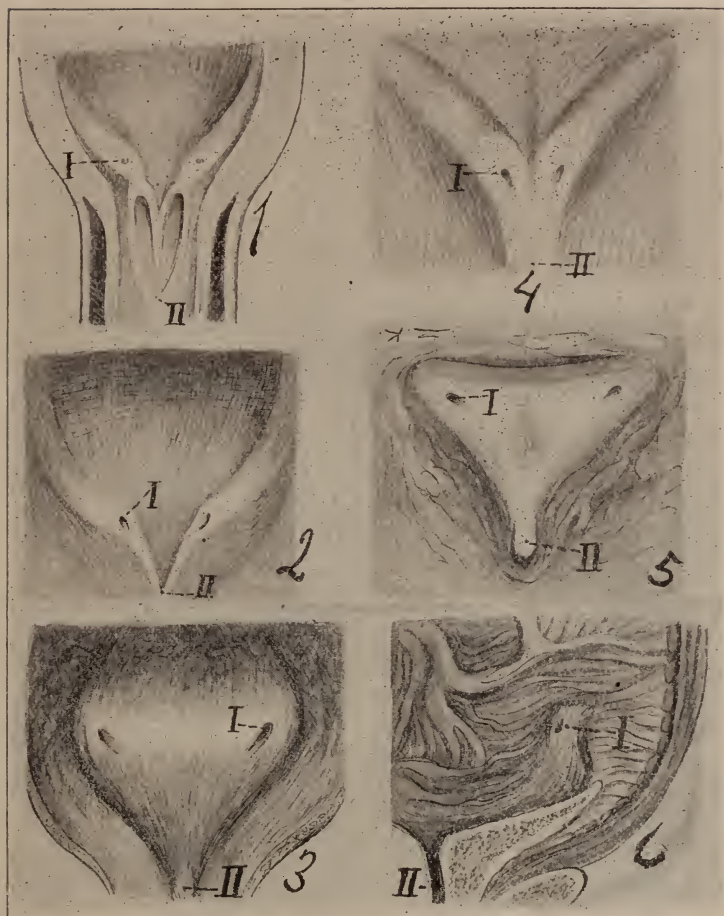


FIG. 1.—Halftone examples of the vesical trigone from: 1, pig; 2, dog; 3, man; 4, calf; 5, woman; 6, man.

I.—Indicates the orifice of the distal or vesical end of the ureter.

II.—Represents the orificium urethræ internum. The trigonum vesicæ is a very variable structure as to dimension, form and appearance. It is an apparatus constant in mammalia, designed to prevent urinal regurgitation or bacterial invasion of the ureter. The greatest distance of separation of the distal ends of the ureter characterizes man; however, I observed that the higher monkey, ape and baboon resembles man anatomically and physiologically. Though a goodly number of the animals in this figure were examined, suggestions of Waldeyer and others as to the typical trigonum vesicæ were employed.

The trigone of the dog (Fig. 1, No. 2) presents two prominent curved ureteral projections of the vesical mucosa with distinct oval-formed vesical ureteral orifices located at the distal end of the ureteral ridges. The lateral borders of the trigone are well developed, ending in a fine mucous ridge at the internal ureteral orifice. The trigonal field presents a depression and a foldless mucosa. Almost all anatomic and topographic terms of man apply in the vesical trigone of the dog.

The trigone of a bovine (calf) is presented in Fig. 1, No. 3. The bovine presents a distinct vesical triangle. The conspicuous matter is the elevated, prominent projection of the vesical mucosa by the transverse ureteral ridges. The distal ureteral orifice is obliquely oval and turned toward its opposite fellow. The trigonum insicura is marked. The lateral borders of the trigonum vesicæ are well developed. The trigonal field is an elevated mucosa plateau. I found the bovine presented variations of the trigone apparently equal or greater than that of man.

The pig's trigone (Fig. 1, No. 1) presents prominent transverse projecting mucous ridges indicating ureters of large numbers. The vesical ureteral orifice (I) presents an almost circular eyelet. In the pig the lateral trigonal border divides into two ridges (reuniting at II) with a shallow groove lying between them. This double flat trigonal groove divided by the fine low ridge I can not find in man. The interesting finding in the pig's trigone is that the ureteral orifice, especially with its flat groove, lies well within the orificium urethræ internum.

DEVELOPMENT OF THE TRIGONUM VESICÆ.

The ureter arises by evagination of the mesonephritic (Wolffian) duct and has its exit in the parietes of the sinus urogenitalis or cloaca. Gradually the ureteral orifice moves more proximalward and appears to open into the dorsal wall of the bladder. This proximalward movement or change by growth of the distal ureteral orifice contributes to form the trigonum vesicæ.

At a certain stage of life the two mesonephritic (Wolffian) ducts and the two metanephritic (ureters) ducts have their exit closely adjacent in the sinus urogenitalis (cloaca). According to von Mihalcovics the field where these four ducts empty into the cloaca gradually grows in all directions, especially in man, and becomes the trigonum vesicæ of erect

animals. The orifices of the metanephritic (ureters) ducts and the mesonephritic (oviducts) ducts gradually separate, producing a wide, broad field which becomes the vesical trigone. This view demonstrates that originally the trigonum vesicæ belonged to the proximal end of the urethra. It practically belongs to the cloaca of animals. The trigone presents the connecting bridge between the higher animals and the monotremes.

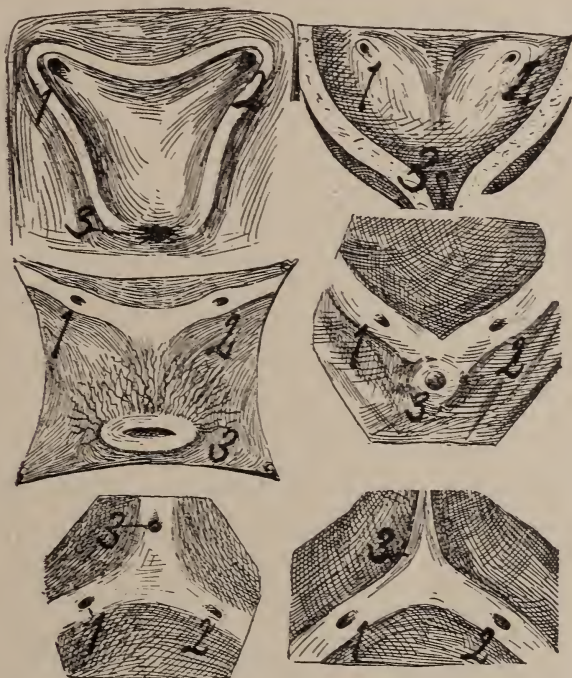


FIG 2.—Pensketches of the vesical trigone as to dimension, form and appearance: 1 and 2, distal ureteral orifices; 3, orificium urethræ internum. The cystoscope demonstrates numberless varieties of vesical trigone.

THE PHYSIOLOGIC SIGNIFICATION OF THE TRIGNUM VESICÆ.

1. The trigonum vesicæ prevents regurgitation of urine into the ureters from the valvular condition of the distal ureteral mucosa. By the greatest amount of intravesical pressure I could not force a drop of fluid or a bubble of air from the bladder into the ureter.

2. It serves as a fixation apparatus for the distal ureters.

3. The ureters terminating into the base of the bladder are limited in change of positions or trauma during contraction or distension of the bladder, whereas if the ureters terminated in the proximal portion of the bladder they would experience considerable change in position and trauma during the diastole and systole of the bladder.

4. The trigone allows the bladder distension (diastole) and contraction (systole) independent from the function of the ureters.

5. It serves as a pedestal for the distal ureters.

6. The trigone facilitates the filling of the bladder by acting as a fixed water-shed.

7. It facilitates the complete evacuation of the bladder by its flat foldless surface.

8. It serves to close the bladder in the living especially from its enlargement due to its rich blood and lymph supply.

9. It serves as a base on which the systole and diastole of the bladder functionates.

10. The trigone belongs to the proximal urethra and arose from the cloaca.

11. It prevents the proximalward movements of infection through the ureters.

12. The trigonum vesicæ is practically a foldless mucosa, hence hypertrophied mucal folds can not obstruct the ingress or exit flow of urine.

13. The trigone contains the chief sensory nerves of the bladder.

14. The ureter terminates in the bladder chiefly beneath the vesical mucosa (similar to the termination of the ductus bilis), hence this anatomic fact demonstrates why the ureter allows no regurgitation, for the trigonum vesicæ and the bladder are two separately functioning organs and the greater the intravesical hydrostatic pressure, the more perfect is the coaptation or closure of the vesicoureteral valve. • I found by repeated dissections that the ureter as it passes obliquely through the vesical wall retains its own muscular coats and is separated from the vesical muscularis by a sheath of cellular tissue, insuring independent functioning of the bladder and ureter (trigone).

15. During the systole and diastole of the bladder the trigonum, from its firm fibromuscular structure, expands and

contracts to a vastly more limited degree than the remaining vesical parietes.

THE CYSTOSCOPIC APPEARANCE OF THE TRIGONE IN LIVING WOMAN.

1. In the vast majority of cases the distal orifice of the ureter appears pink or red. This is, no doubt, due to the rich vascularization of the sphincter (or its equivalent) located at the distal orifice of the ureter.

2. The internal urethral orifice appears a brownish-red, from a rich blood supply.

3. The trigone appears as a mahogany-brown, from rich vascularization.

4. The cystoscopic appearance of the typical mechanism of intermittent ureteral evacuation of urine has a personal variation. In general the ureteral orifice first moves proximal and lateralward, whence urine begins to project in a swift stream. The trigonal muscle now contracts and the ureteral orifice is moved distalward, everting some, closing as the last drop of urine escapes. The final significant act is that the ureteral contraction completely closes the ureteral orifice, which presents a linear depression. The ureter now assumes its position of rest. The ureter projects a urinal stream at intervals, averaging 25 seconds. The duration of contraction is about one-fifth (5 seconds) of the interval.

Practically, both ureters contract similarly. In experimental observation on dog's ureters *in situ*, while under anesthetic, I observed that the ureter possessed a wave of contraction, passing from the kidney to the bladder about every five minutes. This does not agree with the 25-second interval of ureteral projections in the living woman.

If one extirpates the dog's ureter and places it immediately in warm physiologic salt solution it will perform peristalsis for some time if mechanically irritated.

The cystoscopist should be on the alert for dislocations of parts or all of the trigone by adjacent cellular or peritonitic exudates (tumor) and from gestation.

Report of a Case of Senile Chorea.

By W. L. JOHNSON, M.D.,

ST. LOUIS, MO.

APRIL 13, 1903, I was called to see Mrs. G., aged 76 years, weight 218 pounds. Concerning the previous history of the patient we learned that she had been an exceptionally healthy, vigorous woman, but of a nervous temperament. Twenty five years before this time the menopause had occurred, at which time she had marked melancholia and was said to have been greatly debilitated. Since that time she became stout and more or less vigorous.

The morning of the 13th it was noticed that she was unable to steady a loaf of bread in her attempt to slice it. Prior to this observation she had had a "cold"—slight cough, some aches, rhinitis, anorexia, for some three weeks.

Later during day twitching of her face on the left side, followed by, according to observations, movements of the left arm, forearms and of the left leg, and inability to walk without assistance, seemingly from inco-ordination.

The patient was talkative, exceedingly nervous, very apprehensive, and had a slight headache, not unilateral.

On seeing the patient I was struck by the resemblance to chorea and with its unilateral character—a hemichorea.

The movements were involuntary and inco-ordinate, involving the face and extremities of the left side—large and small joints, the former most pronounced. The tongue was not deviated, but was characteristically jerky. There was no difference in the pupils. No ankle clonus. Neither Babinski's reflex nor anesthesia could be elicited, and on account of the patient's cumbersome weight and her irritability the patellar reflex was doubtful.

The lady could walk with difficulty when assisted, but not at all alone, or up and down stairs even with assistance.

The family was made aware of the possibility of its being a chorea, probably of the nature of a hemiplegia, into which it might at any time merge.

There had been some headache and constipation preceded-

ing this attack so that a laxative was ordered; also small doses of the iodids and a sedative mixture of codein and the bromids for the insomnia and general nervous condition.

The patient was not seen the next day, but her son reported a fair night after two doses of codein and bromids. She had also a good bowel movement. He reported absence of the choreic movements during sleep.

The inco-ordinate movements persisting, the family asked for a consultation, which was had with Dr. Given Campbell April 17th. A careful and thorough examination by Dr. Campbell brought out no signs of stroke features. The knee reflex was slightly plus on the affected side. He gave it as his opinion that the symptoms were due to vasomotor changes in the cortex, of an indeterminate nature, and gave a guarded but rather favorable prognosis, re announcing the possibility of an impending hemiplegia. The patient was put upon iodid of strontium in essence of pepsin and the codein bromid given as required. A light diet, chiefly liquid, continued. Urine was negative, heart and lungs normal.

These choreic movements were severe for a week and were plainly noticed, I am told, for four weeks. It was eight weeks from the onset before all trace of the trouble passed away; inco-ordination of the leg, with some lameness being the last to disappear.

The choreic movements observed started me to reading along that line while the unilateral character and its resemblance to hemiplegia made me refer to hemiplegia. References were found to post hemiplegic chorea, choreic movements in several brain lesions. The absence of any definite sign of hemiplegia or brain lesion made me think of it as an entity.

In volume 3 of "Allchin's Manual" I found this much: "Senile Chorea.—A rare condition characterized by general choreic movements coming on after middle life, and more commonly in the aged. It has no relation to rheumatism."

The cases differ from those of Huntington's Chorea:

1. In the absence of hereditary tendency.
2. In the absence of associated mental change.
3. In showing a tendency to recovery."

In Quain: "In addition to the correspondence between hemichorea and hemiplegia just described, there are transitions from one to the other and combinations of the two, etc.,

* * * hemiplegia may be succeeded by hemichorea or chorea may deepen into paralyses."

In "Americnn Year Book," 1902, reference is found to Bischoff's article in the *Deut. Arch. f. Klin. Med.*, Nos. 3-4, Bd. LXIX: "Bischoff reports a case of *senile chorea*, and tabulates 61 case from the literature. The author concludes that senile chorea is a rare disorder; that men and women are equally affected; that rheumatism and heart disease are rare complications, heart affectioas being found in about 12 per cent only; that in 60 per cent the mental condition is normal; that the right and left sides are affected with equal frequency; that in 20 per cent of cases the patients recover, the longest duration in recovered patients being one year. In the case reported by the author a hemiplegic condition of rather rapid onset and not attended by stroke features suggested the probability of an arterial lesion, but at necropsy nothing of the sort was found. Senile arterial changes, however, were everywhere present, and probably were sufficient to interfere with the circulation of the brain."

Senile chorea is given some space by Sinkler in Dercum's System: "Typical chorea occurs in persons after the age of 60 years." He further says, "a number of cases have been reported lately and I have seen several myself. The movements are seldom violent—the legs less than the arms. There are cases aside from those where there is mental deterioration. In senile chorea there are probably some degenerative changes in the motor cortex. Sometimes the movements are extreme and involve the face and muscles of speech to such an extent that the patient can not articulate intelligently." Then in the next sentence he says: "Speech is seldom affected and the facial muscles are not involved." He adds, "it is by no means an incurable disease."

In summing up this case we may say: Typical choreic movements unilateral in character were present.

There was no definite sign or symptom of hemiplegia.

The patient was 70.

Heart and lungs were normal.

Urine was normal

Arteries were slightly atheromatous, temporal especially.

No history of rheumatism.

No mental deterioration!

Reported complete recovery in eight weeks.

Marked talkativeness—everything rational.

Should a Physician Attending Puerperal Sepsis Continue His Midwifery Practice?

By H. N. CHAPMAN, M.D.,

ST. LOUIS, MO.

I HAVE just read an article in the *Therapeutic Gazette* of May 15, 1904, abstracted from an article by Dr. Peter Harrocks in the *British Medical Journal* of February 13, 1904, on the "Treatment of Puerperal Sepsis," and desire to speak especially in answer to the question: "Should a doctor who gets a case of puerperal sepsis continue his midwifery practice?" Dr. Harrocks says, "decidedly no;" I would say, "decidedly yes!"

I think the answer to Dr. Harrocks' first question is contained in the second, with the answer thereto: "How soon after ceasing to attend upon a puerperal septic case is it possible to resume general obstetric practice? The reply is, in about fifteen to twenty minutes—in other words, just as long as it takes to get your hands aseptic!" But yet he denies to the general practitioner the right to sterilize himself and go on. This is not right. If disinfection is any good, it is just as good now as two weeks after one ceases to attend a septic case; and the teaching is at fault in this particular, as is that of most text-books.

My attitude and practice are as follows: When I am called to see a case of puerperal sepsis or any contagious disease, I guard my clothing with a sterilized rubber apron, and roll my sleeves as high as possible. (In case of diphtheria or scarlet fever, I wear a gossamer rubber coat). After leaving the patient I sterilize or disinfect my hands, hair, face and beard with bichlorid of mercury solution, 1/2000, rubbed on with a towel soaked in it, and allowed to dry spontaneously.

When called to a case of obstetrics my uniform practice is to wear a sterilized gown, enveloping the body all around, and from the neck to the ankles, and roll my sleeves up high and tuck the short sleeves of the gown under the shirt sleeves so that the clothing is entirely enveloped. Then a thorough sterilization of the hands and arms is undergone with hot water and green soap, careful trimming of the finger nails, hot

water, soap and lysol, permanganate of potash solution and oxalic acid solution, and bichlorid of mercury, 1/2000.

I have attended all manner of infectious and contagious diseases with which we ordinarily come in contact, and following this usage have never had any trouble in my obstetric work—not even a suspicious rise of temperature.

During four years I was Chief of Clinic at the Bethesda Maternity Hospital, under Dr. E. W. Saunders, where we had about 250 cases of childbirth per year, and two senior students from the Missouri Medical College attended and examined each case under my care, there was no hesitation in following the above line of treatment. During my term of service there was but one case of puerperal septic fever, and that was in a woman who came to bed at five months with grip and a temperature of 103.5°, and miscarried; the temperature continued and she developed a parametritic abscess, which discharged per vaginam, and complete recovery took place.

My reasoning and teaching to students has always been—that we know all or nearly all pathogenic bacteria are fairly long-lived, some retaining vitality several years; therefore, if time is to be an element in the disinfecting process, we must be thorough and allow several years to elapse before we attend a normal case after being exposed to a contagious one. In other words, to follow this line of argument to its logical conclusion, we must have specialists in puerperal septic cases, and other cases of contagious diseases, who never attend normal puerperal cases. A manifest absurdity. If, however, disinfection is of value, and who of us does not believe and know it is, why not do disinfection at once and thoroughly, and go on with our work uninterruptedly?

Without hesitation, I aver that carefulness, while in attendance upon septic or contagious cases, to prevent clothing contact and thorough disinfection of exposed parts after leaving the patient, but before leaving the house, and again thorough sterilization and protection of clothing before and while in attendance on puerperal cases, will be attended with no evil consequences to the patients. The opposite course is fraught with danger to patients as it inclines the physician to trust to time rather than chemicals for disinfection.

LEADING ARTICLES.

COLLATERAL HEMIPLEGIA.

By E. A. BABLER, M.D., St. Louis.

Experience teaches that many of our so-called "interesting" cases are so designated because we have been unable to correctly translate the entire clinical picture presented—in other words, many of our cases are "interesting" because we are not competent to make a differential diagnosis.

We all appreciate the fact, however, that even a carefully conducted necropsy often fails to dispel the doubt and obscurity in some cases.

Among the latter variety we would mention the so called cases of collateral hemiplegia—cases in which a cerebral lesion is followed by a paralysis of the same side of the body.

Many experienced and prominent American surgeons absolutely refuse to believe it possible that a lesion of the right cerebral hemisphere can induce a paralysis of the right side of the body. They hold that a co existing lesion of the left hemisphere was present, thereby explaining the unusual phenomenon—even though the necropsy failed to reveal the lesion, in many instances.

Oppenheim (quoted by Wiesmann) goes so far as to say that, in many instances, the observations of the attending physician were faulty. He contends that the patient was examined while the latter was in a state of coma—at a time when the muscles of the same side were lax, immovable and without tone, thus causing the observer to make a diagnosis of paralysis; and while the condition of contraction or convulsion of the body was translated as indicative of healthy activity.

We do not understand how a careful, competent and experienced physician could so mistake the condition, if he remembers the fact, as pointed out by Ortnier (*Ibid.*) that the muscles of respiration on the paralyzed side are also paralyzed, or their function at least considerably impaired, even though coma be present. The opposite side of the

thorax always moves less during the act of respiration, whether the intracranial lesion acts as a depressant or as an irritant.

Ledderhose (*Ibid.*) has reported one case of his own and forty-eight others collected from the literature, and concludes that, exceptionally, hemiplegia of the same side of the body does actually occur in connection with all forms of brain lesions. He makes no attempt to explain the cause.

Wiesmann ("Von Bergmann's System of Practical Surgery" 1904) pays the subject but a passing tribute without his personal views in the matter or attempting to make any comment.

The subject appeals to us as one worthy of the most careful and thorough investigation, keeping in mind the convictions expressed by Oppenheim, and the valuable observations made by Ortnér.

We sincerely believe that these cases should command the best possible attention in order that we may determine the real cause of the phenomenon.

THE PARTIAL PASSING OF NEURASTHENIA.

By M. A. BLISS, M.D., St. Louis.

C. L. Dana (*Boston Med. and Surg. Jour.*, March 30, 1904), while not denying the existence of a pure type described by the term neurasthenia, insist that psychiatrists and neurologists are constantly making fewer diagnoses of this condition and are recognizing that a large number of cases designated neurasthenia are really early stages of psychosis.

Without deviating much from Kraepelin, he says: "Represent the normal human constitution by a horizontal line, the mental departures from this line are greatest in about the following order: Precocious dementia, paranoia, maniac depression and melancholia, phrenasthenic psychoses, toxic and exhaustion psychoses, organic psychoses."

He then briefly describes all but organic psychoses and concludes:

1. Neurasthenia, briefly speaking, very rarely occurs under the age of 20 years. What we see, then, is pseudoneurasthenia or dementia precox, or dementia precox itself; slight attacks of recurrent melancholia or maniac depressive insanity; or some early development

of a phrenasthenia, showing itself in chronic headache, spinal irritation, hysterical seizures, fears and obsessions.

2. Depressive forms of neurasthenia with mainly symptoms of exhaustion, and retardation of thought, recurring and coming on often without adequate cause or maniac bodily symptoms, and forms of maniac depressive insanity.

3. Neurasthenia in the luetic is often, not always, a precursor of paresis.

4. The depressive and anxious types of neurasthenia occurring after the ages of 40 or 45 years are usually mild forms of the melancholic involution.

5. The neurasthenias occurring after severe illnesses, toxemias and shocks, show sometimes signs of the confusional psychoses.

6. So-called congenital neurasthenia or chronic hypochondria is usually a dementia precox, paranoia or phrenasthenia.

EDITORIAL COMMENT.

Hernia.

We believe that the time has come when it is the duty of the general practitioner to explain to these patients the safety and excellent results of operative procedures, and to refer them to the surgeon, since recent statistics show the operative mortality to be only one in two hundred cases and the percentage of recurrences slightly above 6 per cent, in the hands of skillful and experienced surgeons. The truss—with all of its false security, annoyance and discomfort, should seldom, if ever, be recommended. Many lives have been lost simply because the truss gave to the patient a false feeling of security; in many cases he would have consented to operative procedure and rid himself of the danger and discomfort had the physician so advised.

Almost every country practitioner has seen patients die because the hernia descended, became strangulated and the surgeon summoned too late.

In some cases taxis has been roughly and ignorantly applied and the condition only made worse by pushing the strangulated tissues into the abdominal cavity *in toto*, thereby inducing the belief that the her-

nia had been successfully reduced, and the patient permitted to die as a result.

We realize that many patients will absolutely refuse operation, but they should be correctly advised and then the responsibility rests with them.

Very recently Kocher has presented an excellent method of treating the hernial sac. In some cases invagination is impossible because of inelasticity or thickening. By treating the sac as recommended by Kocher and then following the recent method of Halsted, an ideal technic is obtained. Some may object to suturing of the cremaster to the internal oblique since the fibers of the latter may tend to separate, but this objection is more apparent than real, since the subsequent overlapping of the oponeurosis of the external oblique affords ample support.

The Atlantic City Meeting.

The Fifty-fifth Annual Session of the American Medical Association which was held at Atlantic City, June 10, 1904, as to attendance, was the largest in the history of the Association—about 2500 physicians registered.

Dr. Savage, in responding to the address of welcome by the Mayor, called special attention to the fact that the American Medical Association of to day was a very different and more powerful body than it was four years ago. He gave the credit of this progress in organization to Dr. McCormack.

Dr. John H. Musser, the President-elect, spoke on "Some Aspects of Medical Education." He forcibly argued the advantages of a high preliminary education before taking up medical studies. Every hospital should be a medical school, and the fourth year student should be given the privilege of attending any hospital in the immediate vicinity.

An interesting symposium was made by the institutions doing research work for the science of medicine. Dr Billings reported that Andrew Carnegie had given \$10,000,000 for the purpose of founding an institution of research on the broadest and most liberal lines. Original researches were being carried out in economics, sociology, biology, history and geology.

Dr. Holt reported from the Rockefeller Institute. Dr. Frank Bil-

lings made a report from the Memorial Institute for Infectious Diseases, founded by Mr. and Mrs. McCormack. Dr. Thompson read Dr. Ernst's paper, which gave a detailed account of the research at Harvard. Dr. Stengle spoke of the influence of the William Pepper Laboratory of Clinical Medicine.

The Address in Surgery was delivered by Dr. Mayo, of Rochester, Minn.

An unusual number of papers were read in the various Sections.

The National Association for the Study and Prevention of Tuberculosis.

We have previously called attention to the fact that there were two or three National Societies organized for the special study of tuberculosis, but we deplored the fact that none of them seemed to have the stamp of authority, that is, none of them had any of the leaders of medicine on their governing boards. Now such an organization has been perfected under the leadership of Professor Osler and Dr. Trudeau, of Saranac, has been chosen the first President.

We trust that other tuberculosis congresses will become affiliated with this organization and thus bring unity in the ranks of all eminent physicians and scientists who are fighting the modern plague.

Prognosis: Its Theory and Practice.

Dr. George Dock, of Ann Arbor, the Orator in Medicine of the American Medical Association was fortunate in the selection of his subject Prognosis. This branch of practical medicine has in late years not received the consideration that it merits. Its importance was recognized and emphasized by Hippocrates. How rarely do we find a medical article devoted to the subject of prognosis, either in its general or some special application. The modern physician too often in estimating the chances of recovery merely bases his deductions on the general death rate of the disease. An accurate prognosis, however, depends on an exhaustive study of the etiology of the disease, the resulting morbid changes and the condition of all the important organs of the patient. We have no special treatise or text-book on this subject and the few lines on prognosis found in the text-books on

practice, except in a very general way, give little help to the physician at the bedside.

We trust, therefore, that this address will stimulate renewed interest in prognosis.

The "Cork Cells."

A few years ago Dr. Schueller, of Berlin, published his researches on the etiology of carcinoma and sarcoma, a work which immediately attracted much attention, but the interest in which subsided at once when Dr. Voelcker, Professor Czerny's assistant, decided that these parasites were nothing but cast off cork cells. No attention was paid to the reply of Dr. Schueller, although, according to Dr. Rose (*Med. Rev. of Rev's*, May, 1904), he furnished incontrovertible proof that his capsular parasites could not be cork cells. Dr. Schueller's work has been confirmed by several colleagues and according to Rose the little cognizance of these researches are due to petty jealousies of the directors of the Imperial Commission.

It seems worth while for some American investigators to follow up Schueller's researches, and thus corroborate or refute what really seems an important discovery in the etiology of malignant neoplasms.

The American Association of Psychiatrists.

This Association, which met in St. Louis recently, illustrates the fact that the larger benefit obtained from attendance at such meetings is, perhaps, not from the preparation of set papers, or from listening to and discussing them on the floor of the Association, but from the acquaintance each member gains of fellow workers in the branch of medicine pursued.

There are a few gifted persons in every medical meeting whose opinions are of great value and which they are able to express concisely and so pointedly that they readily stick. But there are many more, also gifted with fine discernment, who need the warming influence of personal conversation to bring out the best which is in them. How many of us have been surprised and delighted to find the quiet, almost diffident member, whose voice is rarely heard in the set meetings, a man of generous information in his chosen line needing only the freedom from all embarrassment, found at the luncheon or dinner

table, to bring to the surface his excellent results of observation. There is also the chap who has nothing to say but who talks on every paper read. He, perhaps, is in a measure responsible for the silence of many men above described. Close personal acquaintance serves the purpose of automatic classification.

An Explanation.

We have been criticised for the editorial in the May number in which we rather severely arraigned those medical journals which permit the publication of articles that seem to serve principally as advertizements for certain proprietary medicines without adding anything to scientific knowledge. The inference has been drawn from this editorial that we are therapeutic nihilists and take no interest in the progress of therapeutics.

We wish to deny this accusation in strenuous terms, and if our editorial really expresses this conclusion we must learn to modify our statements. We have repeatedly stated that the principal therapeutic progress in modern times is due to efforts made by the manufacturing chemists, and we have not taken back this statement. We have many drugs prepared by manufacturers which have become standards and we expect in the near future for many others to be discovered. There is no limit to chemical synthesis and chemical combinations, and since this science is becoming more perfect it will probably be less difficult to manufacture chemicals which shall, in their physiological action, meet certain therapeutic requirements than to seek them in the tissues of animals and vegetables.

But our chief aim in writing the editorial mentioned was to protest against the enormous number of chemicals which are advertized to the physicians, many of which are insufficiently tested in the pharmacological laboratory or tested clinically without proper control. Hence medical journals must use a rigid discrimination in allowing certain copyrighted names in their scientific columns, and it is by this conservative measure that we best serve the medical profession.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Diagnosis and Treatment of Glaucoma.

D. B. St. John Roosa (*Med. Rev. of Rev.*, March, 1904) says that when the eyeball is in a state of increased tension, so that it is sensibly hard by comparison with normal eyes to the fingers placed on the closed lids, in a palpating method as if searching for fluid—a comparison perfectly easy to make, that is either primary or secondary glaucoma. In addition to this chief symptom, which, even if no other objective one exists, marks the disease as glaucoma, will generally be found a redness of the eyeball in the circumcorneal region, a dilated pupil, a watery eye and, perhaps, very great deterioration of vision with failure of accommodation. In addition to this there may be an important subjective symptom—a halo around lights. Rainbow colors seen especially about a candle flame, or the like, although a subjective symptom, is a very suspicious and alarming one. If we add to the picture the very important fact that patients generally suffer severe pain of a neuralgic character, and that the eye is suffused and the lids, perhaps, swelled, we have the disease, acute glaucoma, which ought to at once receive operative attention.

Physical Signs of Pleural Effusion.

Bridges (*J.A.M.A.*, May 28, 1904), not attempting a review of all the text-books' signs, lays stress upon the intercostal phonation phenomenon. When the person observed speaks short words, or syllables, there is a distinct elevation of the intercostal spaces. Abrams states that the phenomenon is intensified if the patient closes the nostrils and covers the mouth during phonation. If fluid exists in the pleural cavity, the increased pressure in the adjacent lung during the act of phonation results in waves being communicated to the fluid which bulges the intercostal spaces. In consolidation of lung contiguous to the chest wall, this could not occur. Bridges calls attention to Little's sign—the phrenic shadow, normally seen under proper relations of light to the chest wall. The absence of the excursions of the diaphragm, as shown by the phrenic shadow, signifies an abnormal condition, and in conjunction with intercostal phonation constitutes a very

valuable combination of physical signs to aid us in differentiating between pleural effusion and pneumonia. Heart displacement must not be disregarded and exploration is a resort justifiable indeed, but only the largest needle must be used.

Roentgen Method in Diagnosis of Renal Calculus.

Leonard (*Am. Med.*, June 4, 1904) found the total amount of error in 320 cases examined 3 per cent. There were among those examined, patients exceedingly stout. The negative diagnosis is based upon the axiom "where shadows of tissue less dense than the least dense calculus are shown, no calculus can escape detection."

Every patient who has suffered from an attack of renal or ureteral colic, unless a stone has been passed, should be examined by the Roentgen method.

The lodgment of a calculus in the right ureter, where it crosses the iliac artery, a very common seat for impaction, may suggest appendicitis, or ovarian disease. The Roentgen method differentiates in such cases.

Acute Anterior Poliomyelitis in Adults.

Gordon (*Am. Med.*, May 28, 1904) after giving notes of a case in which there was also a peripheral facial paralysis and paradoxical pupils complicated with hippus, says that in making a diagnosis of his case three possibilities present themselves for consideration: Poliomyelitis, multiple neuritis, and hematomyelia. Two essentials of multiple neuritis—presence of pain and a gradual onset, were lacking.

According to Guillain and Constemont absence of pain is sufficient for rejecting the diagnosis of multiple neuritis. A sudden appearance of paralytic symptoms with or without pain would suggest, first of all, a hemorrhage. In his case, however, the monoplegia was detected only one or two days after the patient was brought to the hospital.

Moreover, in hematomyelia, the reflexes are usually exaggerated and contractures make their appearance some time later.

A Plea for the Earlier Diagnosis of Uterine Cancer.

F. Hurst Maier (*N. Y. and Phil. Med. Jour.*, April 30, 1904) says that we should strive to make a positive diagnosis at the first examination. In the existence of any doubt there must be no delay in consulting with the more experienced specialist. Nor is it any longer justifi-

able to keep a suspicious case under treatment for the purpose of observing the destructive tendencies of the disease, and by this means arrive at a diagnosis. In doubtful cases a small piece of the suspicious tissue must be excised for microscopical study. In some cases the canal must be enlarged for the purposes of digitally exploring the cavity. The subjective symptoms are pain, discharge and hemorrhage.

Of pain—it augurs bad. The discharge, early, is not characteristic. When serosanguineous or watery it should arouse suspicion of malignancy. Hemorrhage is the principal symptom. It occurs in over 50 per cent of the cases as the first symptom and is often the only one until quite late in the disease. Mild post coitum bleeding is a frequent symptom. Post-climacteric hemorrhage has almost a pathognomonic significance.

Milking the Kidney.

An editorial in the *N. Y. Med. Journal* of April 30, 1904, calls attention to Giordana's method and Nicolich's modification, of determining the diseased kidney without catheterization.

In the diagnostic procedure after the patient has rested in bed for a few hours, the bladder is emptied, and then one of the kidneys, together with its ureter, is subjected to combined massage of the lumbar and lateral abdominal aspects. The urine that enters the bladder in consequence of this maneuver is withdrawn, the bladder is washed out, and the procedure is applied to the other kidney. Nicolich leaves a catheter in the bladder and the urine which trickles from it as the manipulation proceeds shows the differences between the products of the two kidneys.

Diagnosis of Urinary Diseases.

Jones (*Iowa Med. Jour.*, May 16, 1904), among other things, says that in children a calculus can sometimes be outlined and diagnosed by bimanual palpation with a finger in the rectum.

The writer is strongly impressed with the necessity of examining the bladders of children under general anesthesia when using the searcher. He has found Keyes' method of differentiating pus from the kidney and pus from the bladder. The patient passes urine into a beaker. At the end of an hour the beaker is held to the light. If the pus is from the kidney it will be found that it has settled to the

bottom of the glass like a solid mass or like a bed of sand. If the pus is from the bladder it will not have evenly settled to the bottom of the glass, but will appear as a fluffy, irregular cloud. If pus is from both the kidney and the bladder the two characteristics will be combined, the kidney pus at the bottom of the beaker, the bladder pus like a cloud above the kidney pus.

Polycythemia of Congenital Heart Disease.

Ira S. Wile (*Archives of Pediatrics*, May 1904). Polycythemia, as is well known, is present at birth. Cyanosis, dyspnea, and clubbed fingers are often present with congenital heart lesions. Some cases show no cyanosis. Yet despite this lack, polycythemia is usually present. Wile counted 8,431,000 in a case, Townsend has collected 30 such cases ranging from 6,000,000 to 9 000,000. Polycythemia may also exist without any derangement of the heart. Townsend reported two cases of Cabot's both in women over 50 years of age.

Diagnosis of Abdominal Tumors.

Crowell (*Annals Gynecology and Pediatric*, February, 1904) in this paper concerns himself principally with cystomas, fibroids, and pregnancy. He is convinced that his mistakes and those of others were not made because of the obscurity in the case, but because of neglect on the part of the operator to avail himself of all the aids at hand in making positive, that which seemed so simple.

One rule in examining an abdomen is that of seeing that the bladder is empty. If we elicit waves crossing the entire abdomen in all directions, we have reason to believe that we are probably dealing with an ascites. A very large cyst filling the entire abdominal cavity would likely give the same wave.

Inspection may aid us here, if ascites, the abdominal wall will flatten more than if a cyst tumor. If enlargement is a moderate sized cystoma without ascites the percussion wave will be limited by the tumor confines, and the tumor will be surrounded by a tympanitic area called the "tympanitic corona." If ascites look for the reason—disease of heart, liver, kidney or lungs, and thus confirm the diagnosis. The knowledge of a recent inflammatory trouble within the pelvis discloses the the true nature of the occasional large effusion following such pelvic inflammation.

Crowell prefers a small incision to aspirating, since he would dis-

like to aspirate a suppurating dermoid cyst. A cystoma usually originates in the pelvis but is not closely and intimately associated with the uterus as is a fibroid. If it is a fibroid, drawing upon tumor, draws with it the cervix uteri, and *vice versa*. Some edematous fibroids give a sense of fluctuation, when percussed, hard and deep, but never when percussed lightly and properly for eliciting of fluid presence. In fibroid the depth of the uterine canal is elongated, while in cystoma, it is not usually the case. An enlarged stomach, floating kidney, pregnancy, etc., also receive consideration.

The Hopkins-Folin Method for the Determination of Uric Acid in Urine.

Dreyfus (*New York and Phila. Med. Jour.*, April 30, 1904), appreciating the keen interest which would be taken by the medical profession in a description of any new and accurate method for the determination of uric acid in urine, especially when it is known that the older methods are generally faulty, ventures to call attention to the Hopkins-Folin method, which is asserted to be accurate and is now in use in several of the pathological laboratories connected with the hospitals of the Department of Public Charities of the City of New York.

The following reagents are necessary:

1. A solution of 1 liter volume containing 500 grams of ammonium sulphate; 5 grams of uranium acetate; 60 cc. of 10 per cent acetic acid; and distilled water to bring the bulk up to 1 liter.
2. A one-twentieth normal solution of potassium permanganate.

The method of procedure is as follows: Place 300 cc. of urine in a beaker, add 75 cc. of ammonium sulphate reagent, and mix thoroughly. After the precipitate has settled sufficiently (say about five minutes) filter through a double folded filter. When 250 cc. of the filtrate has passed through, this volume is divided in two portions of 125 cc. each, to serve as a duplicate. To each portion add 5 cc. of concentrated water of ammonia, mix thoroughly, and allow to stand over night. The precipitated ammonium urate is then transferred to a filter and washed with a ten per cent solution of ammonium sulphate. Then wash the precipitate with about 100 cc. of water into the same beaker, add 15 cc. of concentrated sulphuric acid, and immediately titrate with $\frac{1}{20}$ solution of potassium permanganate until the first permanent tinge of pink color appears. One cc. of potassium per-

manganate solution equals 3.75 milligrams of uric acid. From this calculate the amount in twenty-four hours.

A shorter process, but one which is less accurate, consists in the precipitation of uric acid with ammonium chlorid (30 grams for each 100 cc. of urine), allowing it to stand over night, then filtering off the ammonium urate, washing with cold saturated solution of ammonium chlorid, and dissolving in hot water about 100 cc.), containing about 15 cc. of concentrated sulphuric acid, and titrating as before.

The Hard-Palate Reflex.

Henneberg, in the *Neurologisches Centralblatt*, No. 23, 1903, calls attention to this reflex. It is obtained by stroking the hard palate with a finger, and the reflex act manifests itself by closure of the lips, more or less, about the finger. It may be obtained even in comatose cases. What is seen is a vigorous contraction of the orbicularis oris, also a slight elevation of the lower jaw. It is absent in healthy individuals and children. It may be found in the neuroses, and also progressive paralysis, but is absent in the usual form of hemiplegias. It is looked upon as a rudimentary suction reflex, and is supposed to occur when the corticonuclear tract to the muscles concerned is interrupted. It is no doubt a cortical reflex — *Cincinnati Lancet-Clinic*, February 6, 1904

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

A New Antidysenteric Serum.

Rosenthal, of Moscow, (*Deut. Med. Woch.*, Vol. XXX, No. 19) has evolved an antidysenteric serum from the inoculation of animals primarily with dead cultures of the bacillus, then with living cultures and finally with the toxins themselves. By use of this serum it is claimed that the percentage of mortality was reduced one half as compared with patients not subjected to its use or with the statistics of former years or of other hospitals.

In a series of 157 patients suffering with dysentery treated by this serum 7 only of cases otherwise uncomplicated had a fatal result; 3 of these were not encountered before the end of the first or second week

and whenever the serum could be administered during the first three days of the disease a prompt recovery followed in from twenty-four to forty eight hours. Even with advanced cases in the stage of collapse, with paralysis of the sphincter ani, great benefit was observed following its use.

Organotherapy in Disease of the Pancreas.

Glaessner and Sigel (*Berliner Klin. Woch.*, April 25, 1904) have critically observed a series of cases suspected of pancreatic disease in reference to the results obtainable from the administration of certain organic extracts. The symptoms exhibited by these patients were pancreatic colic and evidence of disturbed metabolism and digestion indicated by glycosuria, diminished absorption of albuminoids and fatty stools.

Pancreon was found to have but slight effect upon the absorption of nitrogenous substances and upon the fat, while the influence of thyroïdin was positively unfavorable. Pancreatin, however, accomplished an increase in the absorption of nitrogen from 52 to 56 per cent, and of the fatty constituents from 41 to 68 per cent. Although the administration of the alkaline carbonates alone was without noticeable increase, yet their combination in large doses with pancreatin enhanced the efficiency of the latter. Pancreatin and sodium bicarbonate in combination seemed to produce the best effects.

The Treatment of Pulmonary Edema.

Owen (*Brit. Med. Jour.*, January 2, 1904) calls attention to the fact that, while expectorants are rationally indicated in bronchial catarrh they are no less useless when administered in pulmonary edema, since the fluid is thin and in a location from which coughing can not expel it. The clearing of the alveoli must be accomplished by the absorbent vessels, chief of which are the pulmonary lymphatics. Since these lymph vessels empty into the large veins at the base of the neck the absorbent process is materially influenced by the venous blood pressure which in turn depends upon the condition of the right heart, particularly the right ventricle. If, upon examination, there is found undue extension of cardiac dullness to the right, apical displacement to the left, a heaving impulse over the center of the heart with a diminished impulse at the apex or transference of the most marked impulse to the epigastrium, dilatation of this ventricle is denoted. Of

yet greater significance is found in distention of the jugular veins, indicative of venous obstruction. Under the above circumstances in conditions of urgency, Owen resorts to venesection, the removal of six to ten ounces of blood often affording marked relief, although in critical emergencies fifteen to twenty ounces may be let at one time with safety. In the absence of phlebotomy less pronounced effects may be obtained from leeching or free watery purgation by means of gamboge, elaterin or jalap. Diuretics are of little use and the condition of the heart is a positive contraindication for the employment of pilocarpine as a sudorific. Venesection should always be followed by the administration of digitalis or digitalin, strophanthus, canvallaria or squill, to restore tone to the cardiac wall, since, whenever marked dilatation of the right ventricle has occurred the left is almost sure to have suffered also. None of these drugs will be found of avail, except in mild degrees of dilatation, unless preceded by the venous depletory measures.

In the experience of the author the continuous administration of alcohol in edema of the lungs is useless if not actually injurious and is of value only as a temporary stimulant at such time as may be necessary, as for instance, during the early morning hours when cardiac and respiratory forces are at a minimum. Atropine, ammonia and oxygen are also logically indicated under conditions requiring stimulation. Potassium iodid has been used by Owen for its supposed absorbent effects but without any indications of success.

Finally, attention is called to the pronounced effects often obtained in edema of the lungs by the hypodermic administration of strychnin. He does not attempt to explain this upon the ground of cardiac stimulation since its favorable effects were observed both in slight and severe cases without reference to the presence or absence of ventricular incompetency. However, the speedy improvement and rapid clearing up of the characteristic signs following the hypodermic use of strychnin has led the author to resort to this method of treatment as soon as signs of serious pulmonary edema, due to any cause, make their appearance.

Intraneural Injections of Antitoxin in Tetanus.

John Rogers, Jr. (*Med. Record*, May 21, 1904) reviews the present knowledge of the pathogenesis of tetanus, which, in his opinion, points the way toward a more successful therapy than is found in the ordin-

ary antitoxin administration. In support of this view there are cited the experiments of Marie and Morax (*Annales de l'Institut, Pasteur*, Vol. XVI, p. 818) showing that the absorption of the toxin of tetanus depends upon the integrity of the axis cylinders of the nerves and that it is taken up by the muscle-end apparatus of these nerves and flows through the axis cylinders centrifugally, and this fact is confirmed by the further researches of Meyer and Ransom (*Archiv f. Experiment, Path. u. Pharmacol*, Vol. 49, p. 369).

Apparently, therefore, the toxin can only reach the spinal ganglia, where its effect is exerted, through the motor nerves which it enters only through the terminal muscle end apparatus and to traverse a nerve from its end to its origin requires several days, before which time the symptoms of poisoning are not manifest, while, upon the other hand, injection of toxin directly into the cord causes tetanus within a few hours. The antitoxin pursues exactly the same course and the suggestion at once occurs to inject it into the nerves which the toxin must traverse to reach the cord and also into the cord itself. Experimentally this measure meets with perfect success and at the same time explains the failures following the ordinary use of antitoxin. Whenever the micro organisms can be demonstrated in the wound shortly after the receipt of the injury and antitoxin be subcutaneously or intravenously injected before the access of tetanic symptoms, success with this treatment has been reasonably certain. However, it is frequently impracticable or impossible to obtain a culture from every wound and after the development of symptoms, subcutaneous intravenous or intracerebral inoculations with antitoxin are obviously impotent. In the first two instances the curative agent can only follow the toxin up to the cord, since it must first be carried to the peripheral muscle-end apparatus and if given intracerebrally it can not diffuse downward or centrifugally toward the spinal centers, the region vitally affected. For a patient already exhibiting active symptoms it seems reasonable, therefore, to expose the nerves of the part in which the primary infection lies as near to the cord as possible and inject the antitoxin into the substance of each nerve, thus preventing the absorption of more toxin. Furthermore, the antitoxin should be injected in several places, low down in the spinal cord, to neutralize the toxin which must have entered the blood to be carried to all the other motor endings in the body.

Since experiments show that the most minute abrasion of nervous tissue is sufficient for the entrance of the toxin the usual lumbar puncture affords a reasonably safe and certain method of obtaining the desired result and thus the point of a needle introduced dorsally into the third or fourth lumbar interspace should meet one or more of the nerves in the cauda equina and furnish a port of entry for the antitoxin. Meyer and Ransom reported one recovery under this method of treatment and the author presents the history of a case favorably influenced likewise, although the treatment was not inaugurated until marked trismus and opisthotonos existed. In this instance, Rogers exposed the brachial plexus under anesthesia and into the center of the ulnar, median, musculo-spiral, musculo cutaneous and circumflex nerves, there was injected five to ten minims of the New York City Health Board's antitoxin. After closure of this wound 130 minims of the antitoxin was injected subdurally by puncture between the third and fourth lumbar vertebræ. The following day this treatment was repeated and the second day, the patient, a boy of twelve years, showed little muscular rigidity and marked amelioration of the existing trismus. Twenty days after the initial injection the patient left the hospital cured, no ill effects of any kind having followed the procedures.

Rogers argues that great good and absolutely no harm can be expected from cases thus treated and after his experience would feel inclined if necessary, in order to reach the cord, to perform a laminectomy, open the dura and inject 1 to 2 drams of antitoxin subdurally, or to expose the nerves of the cauda equina and accomplish the injection directly into their substance. Regarding the regional injections it is pointed out that in the leg the sciatic, anterior crural and obturator nerves are easily accessible, and in the infrequent cases of cephalic tetanus the trunk of the facial could be reached, and while the latter variety is so closely related to the vital centers and so fatal as to discourage interference, yet the injection should be attempted. While admitting the impropriety of drawing too definite conclusions from animal experimentation or from one human case the results in this instance were so logical and satisfactory that, in the opinion of the author, some grounds for hope are afforded in what has hitherto been a hopeless condition.

CORRESPONDENCE.

A PNEUMONIA EPIDEMIC.

COVINGTON, KY.,
May 15, 1904. }

Editor COURIER:

In your April issue, page 218, under the head of "A Pneumonia Epidemic," you set forth that modern science has accomplished nothing in the cure or prevention of that greatest scourge, pneumonia. I do not consider that we should wait for science. I have, and that too, many years ago, made up my mind that pneumonia and all such lung troubles allied thereto, spring from an affection of the pneumogastric nerve, somewhere along its course, and I have been successful in following this conclusion up to date. I do not remember of having lost a patient for many years.

The only medicine necessary to combat these troubles can be found in three prescriptions:

R Extract coccillana..... fl̄ss
Syrup lactucarii..... ʒij

M. Sig.—Teaspoonful every two or three hours; children one-quarter to one half the quantity.

R Tinct. opii camph..... ʒj
Spts. ether nitr.....
Syr. scilla comp..... aa ʒiss

M. Sig.—Teaspoonful every two or three hours; children in proportion.

When necessary to move the bowels: Pil. cathart, comp., U.S.P., improved, night and mornig, is all that is essential, and then only when indicated.

Do not force the feeding, neither force the use of fluids. I have never found it absolutely necessary to confine all cases to the bed. I think the shot-gun medication that is going on, together with ignorance of symptomatic treatment much to blame. The spleen, liver and kidneys, as well as the stomach and lungs are out of order in pneu-

monia—which, by the way, should be called pneumonia-pneumogastrica instead, which is, as before stated, nothing more than a derangement of the pneumogastric nerve in its course.

When we have severe pain in the bowels following cold, and forming symptoms of pneumonia, we have the phrenic nerve, a branch leading from the solar plexus to the pneumogastric plexus. The diaphragm, the dividing line or organ, contributes to the cause by its contractions or changes brought about by exposure.

When we study and learn more about the diaphragm, science will not appear so stupid to those who cherish its name. One doctor does not make a medical profession, neither do the opinions of a few make a scientific body.

B. F. LAIRD, M.D.

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

Los Angeles Medical College.

Dr. Walter Lindley, the editor of the *Southern California Practitioner*, has recently been elected Dean of the Medical College of the University of Southern California. This Los Angeles School is now entering its twentieth session. Dr. Lindley was one of the organizers of the school and is Professor of Gynecology in that institution.

Bacteriologic Examination of the Blood in Scarlet Fever.

Hectoën (*J.A.M.A.*, March, 1903) concludes from a study of blood cultures from 100 cases of scarlet fever, that streptococci occasionally may be found in cases of scarlet fever that run a short, mild and uncomplicated course; that streptococci occur with relatively greater frequency in the more severe and protracted cases, in which there also may develop local complications and clinical signs of general infection, such as joint inflammations, but even in grave cases of this kind spontaneous recovery may take place and, finally, that streptococcemia may not be demonstrated in fatal cases of scarlet fever.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of April 7, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. GEORGE GELLHORN read a paper (see page 1, this issue) on

The Use of the Colpeurynter in Obstetric and Gynecologic Practice.

DISCUSSION.

Dr. HENRY SCHWARZ said that the paper was so exhaustive and so ample that it would be impossible to follow it in every phase in the time at his disposal but he wished to emphasize a few points that had especially interested him. He agreed with the essayist that the colpeurynter ought to form a part of every obstetrical outfit, as it was most helpful. He also agreed with him that the colpeurynter of the shape preferred by Gellhorn answered the purpose better in most cases than other forms of colpeurynter. The dilators of Barnes on proper occasions answer admirably. It was new to the speaker that the dilator of Barnes which had been handed around was modified by Fehling. He thought that the Barnes dilator answered better when it was desired to protect the bag of waters. In a case of slow dilatation of the cervix in which it is desired to assist dilatation or when the object is to protect the bag of waters which seems in danger of rupturing, the soft Barnes dilator answers better than the Champetier. In all other cases the Champetier has a much better shape, and on account of maintaining its shape it answers the purpose much better.

The speaker said that he had never used it until last fall when attending a case with Dr. Behrens. He was gratified with the excellent work it did in that case and he was inclined to think that in most cases, especially in placenta previa, it would answer admirably. As to the use of the instrument for introducing labor, he was not convinced

that it was a good method, and he wanted to say a word in favor of the old method of using a bougie. He had used that for 20 years and did not remember a single case in which it failed to start labor, that is, to produce uterine contractions sufficient to start the dilatation of the cervix. So far as starting labor was concerned, he thought this method was a perfectly safe and efficient means. Otherwise the colpeurynter certainly answered an excellent purpose in several obstetrical conditions.

He did not quite understand Dr. Gellhorn's method of using it in prolapse of the cord. His practice in these cases had always been to deliver as quickly as possible because experience shows that in almost every case the child is lost unless it is delivered at short notice. If it were used at all he thought the object would be to get dilatation as quickly as possible in order to deliver the child without delay. In regard to puerperal eclampsia, the cases vary greatly. If the woman had no labor pains at all, if she were a primipara, if the cervix was closed and the patient had convulsions followed by coma, he hardly thought obstetricians would wait hours to deliver when a few years ago they were willing to perform Caesarean section under such circumstances. He had found that the Bozzi method had enabled him to deliver a living child within a half hour on two occasions. In one instance he saved both mother and child, in the second case the mother was moribund when he was called, but the child was born alive. He was inclined to think that the injuries attributed to delivery with Bozzi's dilator were due to placenta previa or to some condition in which the lower section of the uterus was particularly liable to be torn. With the cervix in normal condition Bozzi's method seemed to him not to be so dangerous as to cause him to hesitate to use it when a woman's life hung in the balance.

Dr. GEHRUNG said that in the majority of Dr. Gellhorn's statements he agreed with him. His experience in the use of the instrument had been limited, however, but, had been in the same direction as those cases reported by the essayist. Undoubtedly the colpeurynter was a good addition to the armamentarium, but the older means should not be forgotten.

What he desired to speak of particularly was the use of the colpeurynter in the replacement of retroflexed or retroverted womb. It seemed to be a very useful instrument in some cases, except where

there were adhesions. Where there were no adhesions and where there was chronic displacement and the womb had been in such a position for a long time, the colpeurynter was a good thing in the hands of those not over-well experienced with other means. It will perform the mechanical action of replacing the uterus to a certain extent. However, as soon as the colpeurynter is removed in all cases where there is a tendency to re displacement, the womb will fall back again unless, in the replacement, the fundus has passed beyond the vertex or danger line. This would hold true of all cases except those of temporary or accidental displacement. Only in such cases can a permanent replacement be effected without other means of support. For years he has replaced the retroverted and retroflexed uterus by means of a very simple device of his (Gehrun's repositor consists of a hard rubber ring, elongated and curved on the flat to suit the pelvic curve. The repositor is 6 inches long and $1\frac{1}{2}$ wide, ends rounded. It is, therefore, applicable in most cases). By the introduction of this and the use of gentle pressure and conjoined manipulation it is possible to execute the same thing the mercury would do and to carry it actually and in much less time beyond the point attainable by the mercury. Whatever means is used must be followed by after-treatment and by putting and maintaining the womb in the opposite position. The mere replacement will not prevent the womb from falling back into the old position. After replacement it must be kept there either by surgical or mechanical means, so that the uterus can never return to or beyond the danger line. Of course, it is not merely a question of introducing but of scientifically fitting a pessary after the uterus has been replaced by this or any other means.

Dr. TAUSSIG said that in obstetrical work his experience with the colpeurynter had been very limited. On one occasion he used a Barnes bag in a pneumonia patient where delivery had to be hastened, and his experience was not very satisfactory. The patient was a primipara and when the Barnes bag was expelled the cervix was not more than half dilated so that manual dilatation had to be resorted to.

Regarding the more general use of the colpeurynter in this sort of work, there was still one point to be considered, *i.e.*, the possibility of infection. In the experience of Dr. Halban of Vienna, the colpeurynter is a dangerous instrument. He noted that infection not infre-

quently occurred though the technic was as careful as was required. The introduction of an instrument as large as the colpeurynter into the uterus without touching the external genitalia and thereby carrying germs into the uterus is not altogether easy. A thorough sterilization of the instrument is also not a simple. Boiling for five minutes is not as good as boiling for twenty minutes, and the colpeurynter does not satisfactorily withstand boiling for that length of time. It has been suggested to keep the instrument in the fumes of formalin for one to two hours. It would be of great importance to have some statistics as regards the frequency of infection in cases in which the colpeurynter was used in comparison with cases in which it was not used.

In connection with the question of eclampsia in comparing the colpeurynter with Bossi's dilator, a third important method of dilating the cervix should be borne in mind: that of manual dilatation. The speaker thought it a question whether sooner or later there would not be a return to that method of dilatation. In his gynecological practice he had had occasion to use the colpeurynter at the Polyclinic in about fifteen cases of parametritis and retroflexed uterus. The cases of parametritis did remarkably well and there were no bad results. There were five or six of these cases. Treatment was started by using about 500 grams of mercury for ten minutes, increasing at each treatment 100 grams and ten minutes in time until the treatment extended to 1000 grams for one hour. Even a longer time than that could be occasionally used. The cases in which the treatment was used for fixed retroverted uterus were carefully selected. Where massage was practical it was used. Where the abdominal walls were rather thick, and fat, or where the patient was sensitive and nervous, the colpeurynter was used. In some cases the uterus was brought up from the cul-de-sac and the later so far freed that it could be brought forward and a pessary introduced. In one case in particular the patient was very sensitive and after two or three massage treatments nothing could be effected on account of this sensitiveness. A colpeurynter was used and the uterus lifted out of the pelvis. In that case, two months after leaving the clinic, the patient returned and, though for nine years previously she had not been in a family way, she was then one month pregnant. In another instance, the colpeurynter being used for a long time without effect, massage was resorted to and achieved the desired. Where one fails the other may prove effective.

Dr. REDER said that to the excellent paper he could add only his opinion. The paper dealing with the advantages of the colpeurynter, lauded that appliance over other methods used in the past. In obstetrical practice he had had occasion to use the Barnes' bag, which is an old thing. However, the colpeurynter could not be classed as one of the new appliances. Where haste was necessary he thought valuable time was lost in the application of the colpeurynter. As Dr. Schwarz had mentioned, the introduction of a bougié had invariably resulted in establishing labor pains, and he had been in the habit of introducing as many as he could without any danger to the uterine cavity, sometimes using five or six bougies as thick as the little finger, and had succeeded in from four to six hours in bringing on the desired condition. Of course, manual dilatation has also to be resorted to.

In the other conditions mentioned the colpeurynter has a place. In gynecological practice, however, he thought the colpeurynter a much over rated appliance. It had the advantage of showing the patient that something was being accomplished, but with the old methods at his disposal the physician could feel very sure of his success. A tampon of gauze, for instances, properly placed in the posterior fornix will accomplish as much as the introduction of a colpeurynter. Besides, it is exceedingly difficult to find a patient who will tolerate that kind of treatment. General massage, the douche and rest in bed will accomplish, perhaps, a little more.

The speaker said he had also used the colpeurynter in operations on the perineum. He thought this rubber bag would find a favorable place and that there were times when its usefulness would manifest itself to the average patient.

Dr. HINCHEY said that he had not had much experience with the colpeurynter, but the bag which Dr. Gellhorn had spoken of and on which he had laid most stress might be useful, particularly in placenta previa, yet he did not see how as large a bag as the one shown by the essayist could be introduced; that is, he did not see how it would be possible to get the cervix sufficiently open. In a case of placenta previa (a central implantation) in which he had tried the Barnes' dilator he had found it very difficult to get the os dilated at all. The first one broke (doing no harm, however, as it was filled with sterilized water), and the subsequent ones simply dilated the vagina so that

practically nothing was accomplished in securing dilatation of the cervix. It had to be dilated manually and by the use of Goodell dilator, the speaker and the physician assisting him taking turns. In another case the bag ballooned out at the vagina, and where they wanted the pressure—in the internal os, they got none. In its compressed shape the colpeurynter shown by Dr. Gellhorn looked as if it might be more easily introduced, but with the placenta in the way he did not see how enough of the bag could be gotten in to fill up with fluid without completely detaching the placenta.

The PRESIDENT said that he would like Dr. Gellhorn to tell him if the use of this instrument would be applicable to cases where there is pus in the pelvis. Would pelvic abscess, threatened pelvic abscess or leaking tubes be a contraindication in its use?

Dr. GELLHORN, in closing, said that he was greatly gratified by the discussion and was glad to notice that the majority of the speakers agreed with the points in his paper in regard to the usefulness of the colpeurynter. He took up several points on which he had made notes. The colpeurynter which goes under the name of the Barnes' bag, was modified by Fehling; just as Braun's bag in its present form is, in reality, a modification by Grehser. In prolapse of the umbilical cord, he had had no personal experience with the colpeurynter, but Schauta recommends in such a case the placing of a colpeurynter in the vagina, in this way pushing the cord upward and at the same time exercising a counter pressure upon the uterus, which hastens delivery. After the colpeurynter has been in place some time, the os is sufficiently dilated to perform such operations as are necessary to save the child. Therefore, in this instance, the colpeurynter is not a distinct mode of treatment, but is a preparatory method to enable the obstetrician to term inate delivery and to save the child.

He fully agreed with Dr. Gehrung that in the replacement of the uterus the use of the mercury colpeurynter is only a preliminary step: it only serves to bring the organ into the right position; to keep it there it is always necessary to resort to a pessary. He thought the simple device of Dr. Gehrung seemed admirably adapted to the work and he would not fail to make use of it the next time he had an opportunity.

He thought Dr. Taussig rather over-estimated the danger of infection. Infection threatens much more on the part of the physician

who does not clean himself sufficiently or does not observe the necessary precautions in introducing instruments than from the part of the instruments. The colpeurynter can be thoroughly sterilized. If boiling for five minute should prove insufficient, he would boil the bag ten minutes or until it is thoroughly sterilized.

Economy of material in medicine is not a good method, and he preferred to sacrifice one or two colpeurynters to running the risk of sacrificing the patient's health through lack of proper sterilization. But he was not sure that boiling for five minutes was not sufficient to sterilize a colpeurynter. He refer ed to an article written recently on the sterilization of rubber gloves. The authors sterilized their rubber gloves by merely brushing them with soap and water for two minutes and a half and afterwards dipping them in bichlorid solution. Their researches proved that the sterilization of the gloves was perfect, and if such a simple mechanical cleansing of the rubber gloves was sufficient to bring about asepsis it would seem that five minutes boiling would be sufficient. Without the statistics spoken of by Dr. Taussig it is impossible to make a positive statement, but Biermer, who has written the most exhaustive and extensive essay on the colpeurynter, states emphatically that the morbidity after its use is very low.

The speaker had folded a Champetier colpeurynter while Dr. Hinchey was speaking and now called attention to the fact that the space required was not very large. Before introducing it into the cervix which is as yet not sufficiently open, it is necessary to dilate the cervix. The dilators of Hegar or Goodell will dilate the soft cervix wide enough to permit the passage of the colpeurynter into the canal. In placenta previa the best method is to push the colpeurynter through the membrane or, in the case of a placenta previa centralis, through the placental tissue itself into the amniotic cavity, then to release and fill it. Then, by pulling slightly on this instrument, it is evident that it will push the placenta against the uterine wall so that no further hemorrhage is possible. Simultaneously the delivery will be hastened. The reports in literature regarding this procedure are very encouraging and contrast favorably with other methods of treatment.

The dilatation of the cervix sufficiently to introduce the colpeurynter takes about five minutes, after that the colpeurynter is inserted and the weight attached. It all depends upon the individual case as to how long a time will be require for complete dilatation to take

place. As stated in the paper, the time can be more or less regulated by the obstetrician and ranges from a few minutes to several hours. If properly placed and pulled through with sufficient force, the non-elastic colpeurynter of Champetier takes from four to twenty minutes, so that the time required for dilatation is not longer than the time required by the use of the Bossi dilator. The speaker's experience with the Bossi dilator was limited to one case, in which good result was obtained, but the case was not a full term pregnancy.

To respond to the question of the President, the colpeurynter is never applied in any acute or subacute infection conditions. The presence of pus is always a contraindication to its use. The application of the colpeurynter in such cases would be likely to lead to an exacerbation of the inflammatory condition.

Dr. E. S. SMITH, presented a

Specimen of Aneurism.

This specimen is from a man aged 56 years. The family history was negative. Previous history showed syphilitic infection a number of years before with insufficient treatment. His habits were bad; he was an alcoholic, also addicted to excesses in nicotine and venereal. About nine weeks before he entered Mullanphy Hospital he began to have thoracic pain, which gradually increased. It was shifting in character and there was a gnawing, boring sensation. There was also disturbance of voice. Dysphagia then developed and when he entered the hospital February 15, 1904, he could only swallow liquids.

On entering the hospital he showed a good deal of evidence of tracheal trouble, there was much loss of weight and the general condition was bad but there was no marked cachexia. The history showed nothing pointing to any previous growth of any sort in any region of the body. Physical examination showed no enlarged lymphatics either about the clavicle, in the axilla or the groin. The chest showed dullness in the right scapular region. The heart appeared normal. There was absolutely no bruit in the chest. At the first examination I could detect no pulsation, no tracheal tug and no bruit. We thought we could make out some slight difference in the pulse, the tension being lower in the left radial. There was paralysis of the left vocal cord. At that time it was impossible to distinguish between a mediastinal growth and an aneurismal tumor. There was some evidence of pressure on the left bronchus. The patient, on the night of February 21st,

in the early morning was suddenly seized with a severe attack of dyspnea and went into collapse. My assistant found that there was complete loss of respiratory murmur over the left lung and vicarious breathing over the right. I was then for the first time able to make out a repetition of the heart sounds over the dull area. There was still no bruit present, no other change in the situation. Diagnosis was then made of aneurism. The patient gradually grew worse, never fully recovered from this attack, and finally expired on the 23d.

The autopsy showed a specimen of interest, first, because it verifies every physical sign and, in the second place, it verifies the importance of some signs in diagnosis of aneurism and the comparatively little importance of some other signs. We have here a small heart, the aortic opening with no lesion, then a pouch just beginning at the junction of the transverse. Following the aorta we find a tremendous sac and at the junction of the ascending aorta we find Nature's effort to remedy by the formation of a large clot. Here we have the recurrent laryngeal wound right over tumor. The left bronchus is adherent to the under surface of the tumor. The esophagus shows why he could not swallow, the tumor jumping into the anterior wall of the esophagus, so that food had a very narrow place. Another symptom was persistent nausea—not so much vomiting as nausea, probably due to involvement of the pneumogastric. The interesting phase of the specimen is that it goes to prove the great importance of Da Costa's old sign of aneurism—repetition of heart sounds over the dull area. He said the bruit amounted to nothing, but one of the most important signs was being able to establish two points of pulsation in the chest and the two heart sounds. This case shows the little value of the bruit. We had no suggestion of any bruit at all. We have a normal aorta opening. The more I see of these cases the more I am convinced that the bruit in aneurism comes from the aortic opening. I do not believe I can recall a case, either in the City Hospital or outside, where there was a bruit with the aneurism that there was not involvement of the aorta.

DISCUSSION.

Dr. JACOBSON said that this case illustrated the great frequency of aneurism in syphilitic cases. It shows that such cases ought to be treated energetically in the early stages and there will be less likelihood of aneurism occurring later. The next most frequent cause is arterio-

sclerosis. Of course, in this condition we have hyalin fatty degenerations and of calcarious ulcerations deposits and later the blood current flows through the walls of the artery. The number of aneurisms that occur are surprising.

Dr. SMITH, in closing, said he had recently had a case under observation which contrasted very nicely with this case. The left kidney been removed for a carcinoma and later the patient developed evidence of mediastinal growth which gradually increased. This case did not come to autopsy but there was no question as to the correctness of the diagnosis, there was pronounced cachexia, etc. There was a most distinct bruit in the chest upon pressure.

The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 25 cents. The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

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BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

Von Bergmann's Surgery.

A System of Practical Surgery. By Drs. E. von Bergman, of Berlin, P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., professor of surgery in the College of Physicians and Surgeons, Columbia University, New York. To be completed in five Imperial Octavo Volumes, containing over 4000 pages, 1600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50, net. Lea Brothers & Company, Philadelphia and New York.

Volume I.—Surgery of the Head, is divided into the following sections: 1, Injuries and Diseases of the Skull and its contents. 2, Malformations, Injuries and Diseases of the Ear. 3, Malformations, Injuries and Diseases of the Face; Plastic Operations. 4, The Neuralgias of the Head. 5, Anomalies, Injuries and Diseases of the Salivary Glands. 6, Injuries and Diseases of the Jaw. 7, Malformations, Injuries and Surgical Diseases of the Nose and its adjacent tissues. 8, Malformations, Injuries and Diseases of the Mouth. 9, Malformations, Injuries and Diseases of the Pharynx.

Volume II.—Just ready, 820 pages, 321 engraving and 24 plate.—Surgery of the Neck and Spinal Column. 1, Malformations, Diseases and Injuries of the Neck. 2, Malformations, Injuries and Diseases of the Larynx and Trachea. 3, Diseases and Injuries of the Thyroid Gland. 4, Malformations, Injuries and Diseases of the Thorax and its contents. 5, Malformations, Diseases and Injuries of the Mammary Gland. 6, Injuries and Diseases of the Spinal Cord and Vertebral Column.

A review of the two volumes which have thus far appeared of this great work convinces one of the high character of the production. It is encyclopedic almost in extent and the subjects treated are brought well down to date. A pleasing and valuable feature of the work is the completeness with which it is illustrated. The section of Volume I, devoted to Cranio-cerebral topography relative to operative procedures is of especial interest; while in Volume II, the most recent operative measures which have of late been resorted to in the treatment of injuries and diseases of the heart, lungs and vertebræ are thoroughly elucidated, and much clinical data from the experience of the most celebrated operators is given. The conjoined efforts of the renowned German and American surgeons engaged in the production of this work has resulted in a cosmopolitan addition to surgical literature of the highest type of excellence.

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Specially designed for the use of Practitioners and Medical, Pharmaceutical, Dental and Veterinary Students. By E. Stanton Muir, Ph.G., V.M.D. In-

structor in comparative materia medica and pharmacy in the University of Pennsylvania. Third edition, revised and enlarged. Crown octavo, 192 pages, interleaved throughout. Extra cloth, \$2.00 net. F. A. Davis Company, publishers, Philadelphia.

In the third edition of this book the author has scored a distinct advance over the previous volumes. The book is a well-written working compendium of the official drugs and deals fully with their origin and preparation. An advantage to the student is found in the alphabetical arrangement and the system of interleaving blank pages for annotations. For the pharmacist or dispensing physician desiring a handy reference book the work should prove of extraordinary value.

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Volume I.—Fourteenth Series. 1904. Cloth, \$2.00.

We consider this volume worthy of a place in every medical library. The work is full of recent progress; the plates are excellent; text clear and full of interest.

Widal and Javal show that sodium chlorid plays an important rôle in the treatment of parenchymatous nephritis, and their tabulations are convincing.

Catwell tersely and fully explains how cryoscopy can be made a valuable aid in diagnosis. The use is limited and repeated cryoscopic examinations are necessary.

Carl Beck's article on Angioma is very interesting and the illustrations are good. Six cases are tabulated. Relative to treatment, he strongly recommends subcutaneous ligature. Excision is to be practiced only after all possible cicatrization has been obtained by the subcutaneous ligature.

Clark and Luther review the methods of intestinal anastomosis and report five cases. They found that fine silk is preferable to catgut, since the latter is likely to be absorbed before union has become strong. They consider the Connell suture to be the best and most rapid method of suture yet devised for end-to-end or lateral anastomosis. One of the reported cases died because the catgut had become absorbed before union had become firm. They state that no suture should have the exclusive preference in intestinal surgery—each variety has special fields of usefulness.

Gaston presents the surgical treatment of diseases of the testicle. He concludes: "When in doubt, operate." He refers to Halstead's new method of herniotomy and presents plates showing method.

Pritchard cites six cases of puerperal neuritis—pressure neuritis, facial paralysis, influenzal sciatic neuritis, intercostal neuritis; brachial neuritis and tic douloureux. He tabulates symptoms and presents treatment. Always examine the urine in every case; resort to the electrical reaction test in medico-legal cases.

Edsall gives a review of the year's progress of medicine, and Bloodgood the progress of surgery; both articles are good. The same is true of the other articles by Walsh, Davis, Noble, Davenport, Stevens and others.

Taking the volume as a whole, we certainly commend it with pleasure.

A Practical Treatise on Medical Diagnosis.

For Students and Physicians. By John H. Musser, M.D., professor of clinical medicine, University of Pennsylvania; president American Medical Association, etc. Fifth edition, revised and enlarged. Illustrated with 395 wood cuts and 63 colored plates. Price, \$6.50. Lea Brothers & Co., Philadelphia and New York. 1904.

This, as is now well known, is an excellent treatise on medical diagnosis. It is thoroughly illustrated, up-to date, and a book that is calculated to be of great help to the student and practitioner. It would be hard to criticize a volume of this magnitude, but in looking over some subjects, we find it hard to locate facial paralysis, and having found it are somewhat disappointed in its meager outline. Pyelitis might also have been gone into more thoroughly, and pyelonephritis is not considered at all. But, all in all, it is a remarkable book and one that should be in every medical library, or better, on the desk of every practitioner.

A Manual of Fever Nursing.

By Rynold Webb Wilcox, A.M., M.D., LL.D., professor of medicine in the New York Post-Graduate Medical School and Hospital; consulting physician to the Nassau Hospital, etc. Illustrated, 236 pages; cloth, \$1.00. P. Blakiston's Son & Co., Philadelphia. 1904.

This neat volume presents the subject in a concise and thorough manner, thus enabling the nurse to realize the exact condition present in each instance. In addition it designates very clearly her functions and duties and the methods of procedure. A careful perusal and study of this manual will be of much benefit to the profession nurse.

The Perverts.

By William Lee Harvard, M.D. Second edition. Price, \$1.50. G. W. Dillingham Company, New York.

The author of this book is a well-known student of psychologic and sociologic problems of modern life. He attempts in this novel to illustrate some of the more serious forms of mental perversion, and vividly portrays some of the most striking symptoms of degeneracy.

Being put in the form of an interesting novel the story and the lessons derived from it will have an absorbing interest to all intelligent people. Yet it is a clean book which all physicians can read with benefit.

Minnesota Physicians' Blue Book.

A complete medical and surgical roster of the State of Minnesota, including graduated nurses and druggists. Containing a list of physicians and surgeons with school and year of graduation, and a list of specialists, classified alphabetically by towns, showing population. Also the various hospitals, sanitariums and other institutions; State Board of health, societies, medical journals, etc., and the late medical and pharmacy laws. Published by the Physicians' Blue Book Company, Minneapolis. 1904.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

WORLD'S FAIR NOTES.

The Physician at the Louisiana Purchase Exposition.—I.

Three different persons were trying to direct the Western stranger to the Anthropological Building and each gave a different route. We are not sure but that they all were correct, but the tendency of mankind to graft their own ideas on those of others was strikingly exemplified. So we will be pardoned if we also give some of our impressions of the Louisiana Purchase Expositions hoping that our foot-prints might be seen and serve as a guide for other physicians who will visit the World's Fair, during the summer.

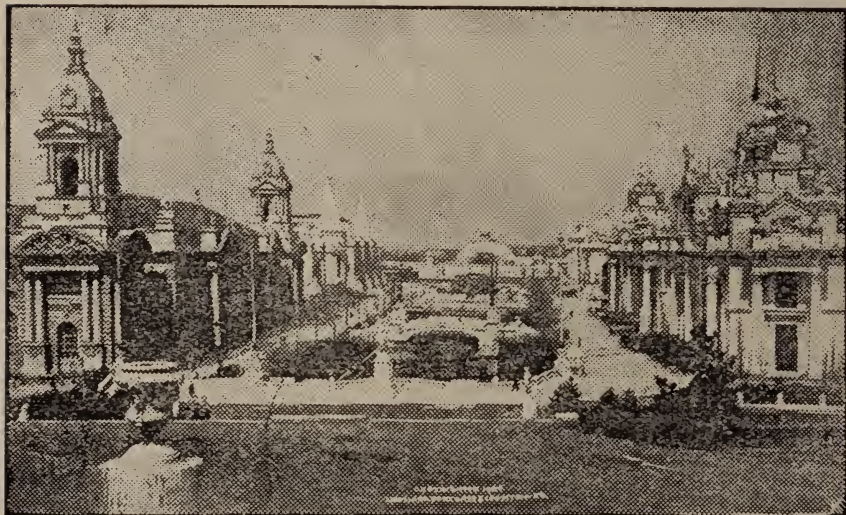
In the first place, medical displays are found everywhere; you can't miss them. The baby incubator on the Pike and the ova of the *Anopheles* in the Department of Entomology may serve as the extreme examples of exhibitions which may be interesting even to the ultra-scientific physician.

But each physician has a hobby. Some will spend days in studying Architectural Designs, others will find the Building of Fine Arts the most entertaining, still others will get most delight in the problems of Anthropology, and the Iggorotes and Esquimaux will be the center of attraction.

We found a whole day's pleasurable study at the Department of Anthropology. The geologist or paleontologist, and the many physicians who dabble in one or both, will forget the attractions of the Pike when studying the thoroughly classified objects of prehistoric man. It is wonderful how our prehistoric ancestor interests us, when possibly some of us entirely ignore some cousins, or are in ignorance of a great-uncle, not to speak of the neglected mother-in-law. Still, from the size of the crowds we were inclined to believe that the modern foreign races are still more attractive, judging from the crowds found in the Egyptian village, the Phillippine colony, or the Indian Schools. My young friend Dr. X., remarked that he found more inspiration in studying the Egyptian dancing girls than the mummies of the Egyptian kings. Perhaps, he is correct, but, he is young.

This is the first of a series of three papers written by the Editor on the Medical Aspect of the Louisiana Purchase Exposition.

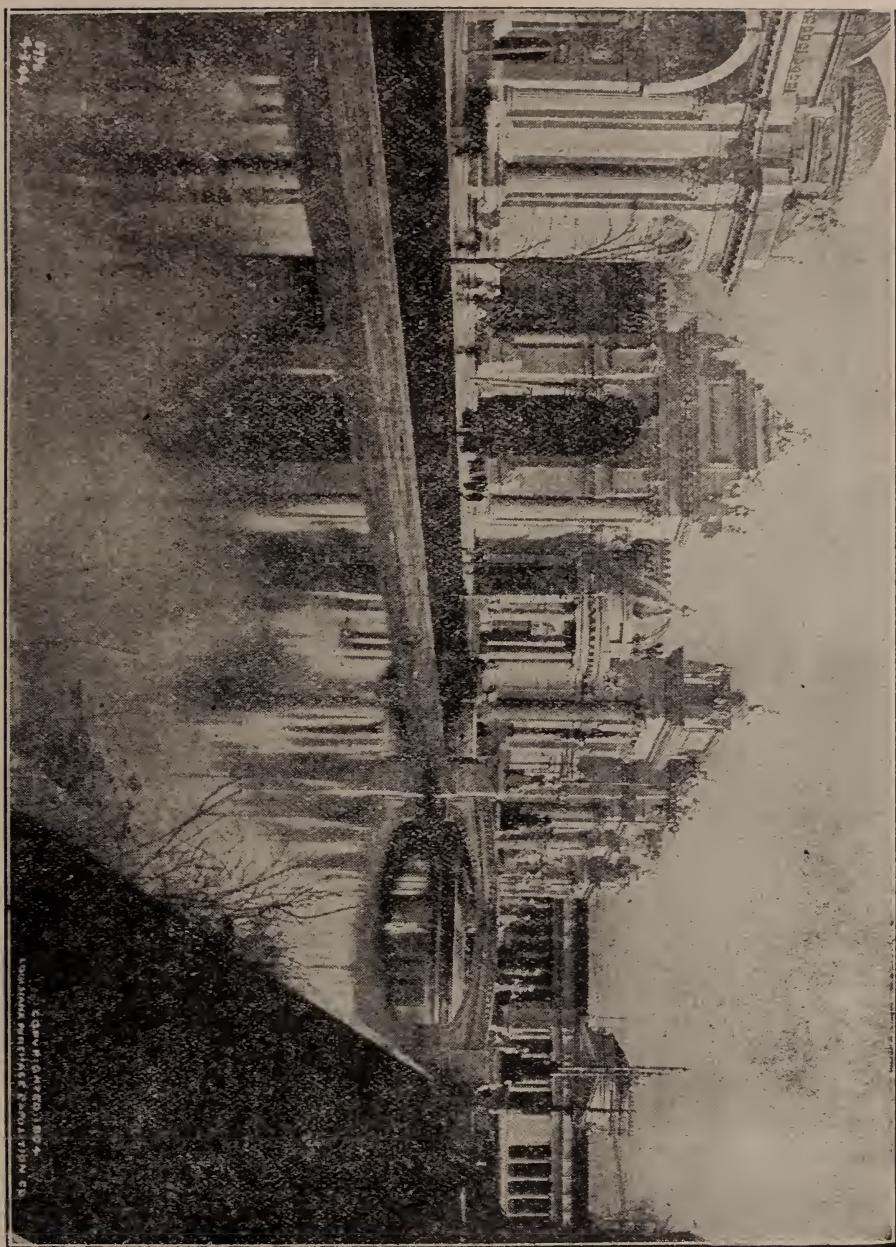
We found one disciple of Esculapius lost among the splendor of the Parisian costume exhibit. We heard afterward that he was married, and his wife knows how to get him interested in useful knowledge. After this we felt no surprise when a physician bought a Japanese \$1,000 vase.



View of the Lagoon from the Mines and Metallurgy Building.

But we started to write of medical things at the Exposition, and we constantly drift into another stream. That is the principal difficulty among the exhibits; you lay down a certain route or arrange a series of studies for the days and you as constantly drift into something else. Perhaps, you are studying the chemistry of sugar in the Education Building, and wonder if raffinose, a sugar found in sugar beets but not in sugar cane, may be beneficial in certain cases of diabetes, when you are suddenly attracted by a strong beam of light in the center of the Palace, you must investigate, and find a Yale University Professor give stereopticon demonstrations of the stellar phenomena.

Perhaps, you are absorbed in digesting certain morbidity tables in the German Hygienic Exhibit in the Palace of Liberal Arts, when the martial strains of a brass band near by attract you, you investigate, and find the magnificent musical exhibit of a French company. Or you are intently studying the gross anatomy of the *stegomya fasciata* in the Government Building



Palace of Liberal Arts.

when the rattle of machinery takes you to the manufacture of gold coins.

Consequently, it is impossible to study medical things at the Louisiana Purchase Exposition without having them mixed with art and industry. It

is a kaleidoscopic panorama, which does not resemble a college lecture room, much less a research laboratory. This only makes it the more attractive, the few moments of professional interest are followed by an excitation of our artistic sense.



Looking West from the Palace of Varied Industries.

Are you interested in the milk question. Go to milk laboratory in the Education Building, and find how dirt can be kept out of milk; the most important thing about milk from a hygienic point of view. But you can study the bacteria of milk, the ingredients of milk, etc., etc.

Are you interested in biologic Medical Products? In the same Palace you will find the different products of the Japan Imperial Institute, the German Institute and H. K. Mulford & Co. There are antityphoid sera and vaccins, vaccins for dysentery and cholera, toxins and antitoxins. The methods of vaccinating animals and lesions produced are demonstrated by Anatomical Specimens and Wax Models. The lesions of variola, varicella and varioloid are splendidly shown by H. K. Mulford & Co. You may be interested in Sato's (Japan) vaccinating utensils for a child. There are charts and photomicrographs everywhere. The whole history of modern medicine and sanitation is illustrated by graphic charts, and curves, statistical tables and colored cylinders and cones.

The German exhibit of Medical Science is far above others in extent, especially is this true since, all the features are well classified and are grouped together.

The American exhibits in medicine and hygiene are scattered. They are found in the displays of the universities and the municipal government of states and cities. There is the Department of Health of the City of New York, of Massachusetts, Missouri, etc. Cuba has a special exhibit of its Health Department and its work. The University of Illinois has a fine exhibit of pathologic and anatomical specimens, and others will be found. But the exhibit of Germany comprising the display of many different manufacturers of medical instruments and models of the Imperial Medical Institutes, all together constitute an unrivaled exhibit and the practitioner can see the highest medical attainments exemplified in a thousand different ways. The principal German exhibit is in the Palace of Education, and a hygienic annex is found in the Palace of Liberal Arts. The former treats of practice and pathology, the latter of hygiene and balneology.

If the Germans excel us in medical research, their exhibition also excels all others in the variety of subjects illustrated. Not only will the surgeon be interested in the apparatus, but especially in the beautiful Wax Models which vividly illustrate the different steps in some classical and many new operations. The Bassini operation for hernia which has become so well known and so highly valued; and the old operation for tracheotomy is elegantly illustrated by the side of a new operation for gastroenterostomy, or another giving the necessary details in extirpation of the larynx.

Perhaps, many of us have to learn that there is such an instrument as the esophagoscope, and that it is invaluable in the diagnosis of the diseases of the gullet. Some will be especially interested in the latest instruments for exploration of the bladder and urethra; but many more, even in a general way, will not fail to scrutinize the bacteriologic exhibit, coming, as it does, from the laboratories of Koch and Behring. Prof. Ordt has sent interesting specimens from the pathological laboratory; some are preserved in antiseptic fluids, others are pictured in wax models.

The rarer and interesting diseases of the skin, pictured in beautiful wax models will also be of general interest. It may be profitable for the general practitioner to have erythema

multiform and syphilis side by side. It is also surprising to find lupus a multiform disease.

We need not speak of the wonders of microscopy, but we have been promised demonstration of the instrument to view ultramicroscopic objects. It has been asserted that large molecules in solution may be seen. We have seen the wonderful epidioscope in operation, whereby a well illuminated



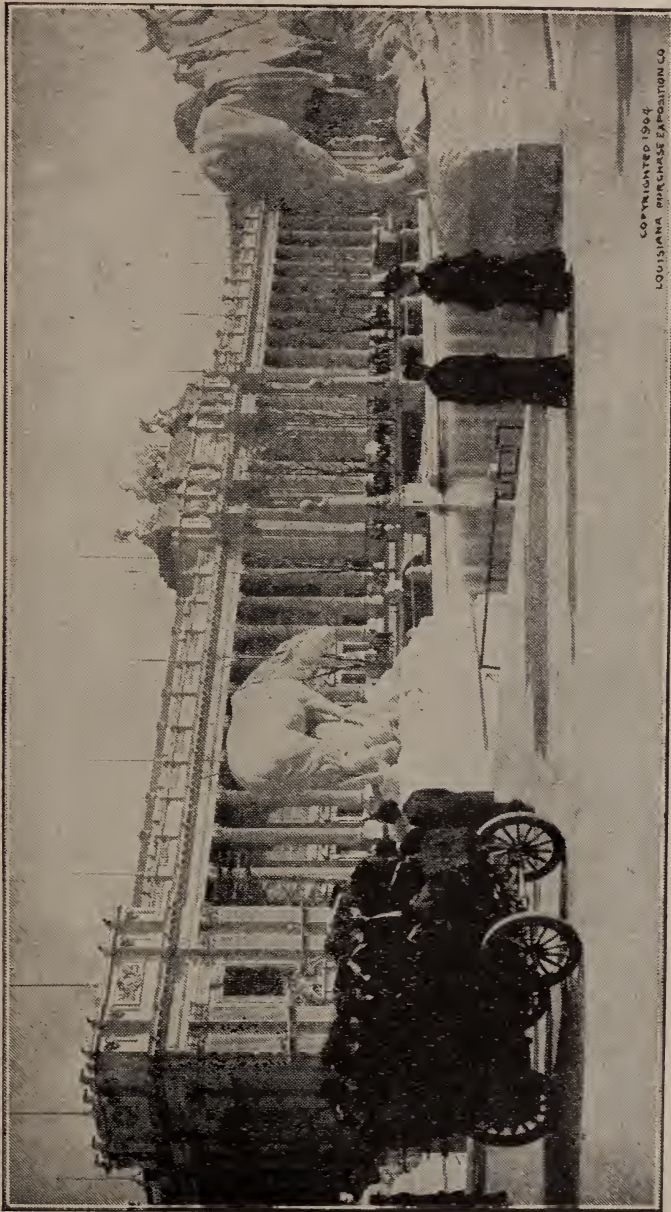
Manufactures Building.

picture of microscopic objects, of photographs or even solid opaque objects are drawn on a screen. A valuable feature will be special lectures to be given occasionally by specialists. A few weeks ago the profession was entertained in the Auditorium of the German section by a lecture on *Coxa Vara* by Prof. Hoffa, of Berlin.

It is clear that the medical man can indulge in the luxury, or rather the necessity of a post-graduate course at the World's Fair. Like other courses, it needs attention and some study, or you will not be able to distinguish the ova of the anopheles from those of the culex mosquito when you leave the Government Building. Or, if you are interested in anatomy attention to details will be necessary whether viewing the dissections in the anatomical displays, or the paintings of Hercules or Venus in the Palace of Fine Arts.

The The Public Health and Marine Hospital Service have a splendid exhibit in the Government Building. Some of our friends who are still rather careless in aseptic surgical pro-

cedures might profit very much by spending more time in this exhibit than in viewing the old army wagons used at Chancellorsville or studying the modern army rifles.



Palace of Education.

The trouble really is that as physicians we go to see the unfamiliar, and study the strange and fascinating. Probably, we all will feel more elated over a feast of the Igorrotes or the

Esquimaux Columbia whipping coins from a log, than a row of the latest obstetrical forceps.

It is human nature after all and our wives and children will know how to keep us from the dull scientific section. Where living beings are to be studied, who will become enthusiastic over mummies? Hence, the greatest crowds are always around the living. That which is moving and active finds the most admirers. The crowds around the daily performance of the Life Saving Service, as they rescue the supposed drowning man and perform artificial respiration on his limp body give ample evidence of the attractions found among living, even if pretended, realities. So long as these realities are constantly changing and a new panorama is daily shown we are afraid the learned statistical and graphic charts will receive but a casual glance. The ultimate object of science in exhibition, therefore, will always be very poorly realized. The scientific display lacks its "barker." Put up a show which has neither anything, entertaining and not at all instructive, but put a man in front with a megaphone and the crowd will part with extra half dollars to see it. So medical science at the Louisiana Purchase Exposition is not announced with a megaphone. One must search himself to get the full benefit of the many lessons.

Of course, as is to be expected, many of the commercial houses have very large displays of instruments and chemicals. No student of modern drugs will fail to look over the magnificent collection of synthetic chemicals of the German section in the Electricity Building or the French display in the Palace of Liberal Arts. We spent an hour in looking at the beautiful crystals and powders, saw names we never heard before and still there was no end. Modern chemistry has become so enormous that, as in the practice of medicine, there must be specialists in every department, for no human being could obtain more than a hazy knowledge of the principal chemicals.

Electricity and electrotherapeutics receive much attention. X-ray apparatus are found in several buildings. Machines, coils, and a thousand accessories are shown and explained.

Not entirely without its medical aspects is the Machinery Hall, where we find these beautiful scales to weigh the baby and gasoline motors for variety of purposes. In the Transportation Building the great variety of vehicles and automobiles will appeal to every one, for all doctors are intending to buy an automobile in the near future, or until the present craze subsides.

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ORIGINAL CONTRIBUTIONS.

Modern Treatment of Cholera Infantum.

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NEW YORK CITY.,

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Chicago; Former Attending Physician, Westside Free Dispensary,
Medical Department, Chicago.

THE importance of prompt and efficient treatment in cases of cholera infantum will not be questioned by any one who has been called to these little sufferers with their glassy eyes, pinched, blue skin, the corners of the little mouths that ought to be curves of infantile beauty, drawn down with the aspect of old age, the cold perspiration standing out upon the skin, vomiting even cold water, and the bowels running off with a watery, foul discharge.

That the heat of the summer months, by its depressing effect upon the nervous system even in adults, is an etiologic factor in cholera infantum, is beyond doubt.

That excess of unsuitable, partly fermented food is another, can be stated as true. The stomach becomes overloaded, the bowels distend with gases from excessive fermentation, the bacilli swarm throughout the intestinal tract and vomiting and diarrhea are only an expression of Nature's disapproval of, and an attempt to, remedy the condition.

There is rapid internal congestion—stomach, bowels and more to be dreaded, the brain. The skin shows, in consequence of the congestion within, marked contraction of the

capillaries. There is pain in the abdomen, temperature of 102° to 105° , and small, weak accelerated pulse.

You all know the picture—what are you doing for its relief? Do you keep on giving the old astringents to lock up the poisonous bacilli-infected mass of waste material in the intestinal tract? Do you give some combination containing the deadly paregoric? If you are there is a better, safer, more efficient way. Do not take my word for it, but if you do not get better results your way, look into this:

In the first place—something has to be done, and done quickly, if some of these cases are to be saved. If the temperature is high there is most likely threatened convulsions if they are not already present

Atropin and aconitin are the two remedies for these conditions, and must be given promptly and frequently enough to produce the effect desired; the restoration of circulatory equilibrium. I usually dissolve a granule of each—atropin, gr. $1/250$; aconitin, gr. $1/134$, for each year of the child's age, plus one granule for waste, into 24 teaspoonsfuls of water, right out of the teakettle (sterilized), and give a teaspoonful of the solution every 15 to 30 minutes until the convulsions are relieved and the reddening skin shows a return of blood to the capillaries. If the child is 2 years old, three granules each of the remedies; if 4 years old, five granules, etc.

Then, the intestinal tract, where the fight is really going on, must be cleaned out and kept clean. A dose of castor oil, or calomel—the latter in small ($1/6$ grain doses) repeated every hour, or, preferred, in larger doses. Then in order to counteract the toxins already in large quantities in the intestinal tract and poisoning the blood, I use the sulphocarbolates of lime, sodium, or zinc, as the best, safest, most efficient intestinal antiseptics I know of. If there is severe diarrhea, I give the baby a granule, gr. $1/6$ of zinc sulphocarbolate dissolved in the aconitin and atropin solution, and continue the sulphocarbolate alone every half-hour or hour, after the former two remedies have been discontinued—which is as soon as the temperature has been restored to near the normal and the convulsions have ceased.

This has nothing to do with any expectant treatment—expect the patient will die, but hope he will not; it means “something doing from the very start, and it means, also, success in a very large per cent of cases seen in time to put the method

into operation. I am not going to give any personal statistics showing how I save all, or nearly all of my cholera infantum cases; that is not of such practical use to others. But, the active principles with their certainty of action, do accomplish safely, pleasantly and quickly, results that the galenics never have; and, from the very fact of their uncertain alkaloidal strength, never can produce. And the rendering the *prima via* as near aseptic as possible by the use of the sulphocarbolates, is one of the most important, far-reaching achievements of modern therapeutics.

To Prof. Waugh belongs the credit of bringing this fact before the profession. He experimented with these salts and found that, when pure, they can be "pushed to effect" in any case; adults receiving in typhoid fever, for example, as high as 60 to 100 grains in twenty-four hours. This combination (sulphocarbolates of lime, sodium and zinc) is, in my hands, an ideal preparation.

In cases where there is more irritation of a gastric nature, I prefer the sodium salt; when the diarrhea is very bad, the zinc salt, as mentioned before; in cases where there is great wasting, indicating great perversion of general nutrition, I use the sulphocarbolates of lime. Of course, the diet should be restricted to even sterilized water, or barley water, the first twenty-four hours. The mother must be convinced that this is necessary and that her child will not die from starvation, in so short a time, but will be better for not adding any more fermentable material to the alimentary canal.

After the fight is over, strychnin arsenate, or brucin, in young babies, is the best tonic to restore and maintain vitality, we possess; they may be given as were the aconitin and atropin.

Finally, the cause of the attack is usually in and around the premises; these should be cleaned up and disinfected thoroughly, from cellar to garret, and the ejecta deodorized and sterilized before being relegated to the sewer.

Proper guarded feeding; and avoidance of direct rays from the sun and the over-crowding of living and sleeping apartments; fresh air and pure water are all necessary adjuncts to any modern remedial measures and we all know how important they are. The active principle method of administering drugs is not so universally appreciated but, even in the conservative East, where they are exceedingly slow to "catch

on" sometimes, the reasonableness and practicability of this direct, efficient advance in therapeutic procedure, is gaining very rapidly.

Surgical Treatment of Ulcer of Stomach and Duodenum.

By WILLIAM H. WATHEN, A.M., M.D., LL.D.,

LOUISVILLE, KY.

Surgeon St. Anthony's Hospital, Louisville City Hospital, and Kentucky School of Medicine Hospital, Member of the American Gynecological Society.

SURGERY of the stomach and duodenum has until recently been mainly confined to operations for cancer of these organs, but has now extended to hemorrhage in acute and chronic ulcer, perforation, pyloric retention and obstruction, perigastric adhesions and contractions, with results more encouraging than in our early operations for diseases of the appendix, gall-bladder and bile ducts. The prohibitory results in operations for cancer by Billroth and his school are fresh in the memory of the physician and surgeon; hence, but relatively few surgeons have operated for other pathologic conditions and complications, leaving these patients under the treatment of the physician as cases of acute and chronic dyspepsia. The recent surgery of the upper abdominal cavity by Robson, Von Mickulics, Czerny, Mayo, Moynihan, and a few other surgeons has demonstrated that many cases diagnosed and treated for chronic dyspepsia with no permanent cure, are cases of chronic ulcer of the stomach or duodenum, with varied complications, and can only be cured by a surgical operation, which if performed timely may often prevent the development of cancer. This being true, it behooves us to encourage the physician and surgeon to diagnose these cases early and operate in the precancerous stage. It must be remembered that in about 5 per cent of all necropsies, ulcer of the stomach, or its complications has been found, that 2 per cent of all deaths are caused by cancer of the stomach, and that 40 per cent of all cancers are found in the stomach. In

a series of many patients with cancer of the stomach operated upon by Mayo, the pre-existence of the ulcer was demonstrated in 60 per cent of the cases. Statistics will show that in not less than 60 per cent ulcer of the stomach is in the pyloric end, and that cancer develops in this part of the stomach in about the same ratio. This etiologic condition should stimulate us in our efforts to make an early diagnosis of ulcer, and to offer our patients the benefits of timely operation to cure the ulcer, and as a preventive of cancerous invasion. Chemic and microscopic examinations of stomach secretions and contents will not enable us to diagnose acute or chronic ulcer or cancer, but we must carefully consider the history of the case and the physical changes in or about the stomach that interfere with its motility and drainage; in some cases an exploratory incision will be indicated; and this Osler believes should be more frequently advised by the physician, for the patient is usually referred to the surgeon, and is often influenced in giving his consent to any surgical operation by the attending physician.

Our most distinguished physicians now agree with Dr. Osler, that ulcer of the stomach, especially in its chronic form, with the symptoms of continued dyspepsia, is a disease about which the physician and surgeon should consult in its early stages, before pathologic changes have developed that greatly endanger the life of the patient with or without operation, and before cancer has implanted itself in the ulcer or in the epithelial cells about the scar of the healed ulcer.

An excess of hydrochloric acid is present in acute ulcer of the stomach, and is possibly an etiologic factor, for ulcer in the duodenum is seen only in the upper third of the bowel above the entrance of the alkaline secretions from the liver and pancreas, and the jejunum below its attachment to stomach after gastroenterostomy, but we may have continued hyperchlorhydria without ulcer. In the chronic ulcer, there may be normal amount, too much, too little, or an absence of hydrochloric acid, and the same is practically true in cancer of the stomach.

Traumatism is also a probable cause of the ulcer, as indicated by the relative frequency of the ulcer in the pylorus, where an irritation may be continued by the grinding process of the circular and oblique muscle fibers in forcing the food into the duodenum by rhythmic and peristaltic contractions.

The traumatic cause does not apply with equal force in ulcer of the body and fundus.

Were the ulcer free of associated or resultant complications, the disease would be self-limited, and the patient should then remain under the direction of the physician, but because of these complications surgery is often indicated as the only means that will give temporary or permanent relief.

The operation of election must be the one that restores as far as possible the normal motility and physics of the stomach, and establishes the best drainage; and the experience of our most successful men in surgery of the stomach has shown that gastroenterostomy gives better results than other methods, but good results have been obtained by gastroduodenostomy, or Finney's pylerogastroduodenostomy. Pyloroplasty and dilation of the pylorus have been so unsatisfactory in immediate and subsequent results as to justify the surgeon in excluding them as operations of election in any case.

Surgical treatment is indicated in hematoses where the persistence of hemorrhage is endangering the life of the patient, and should then be limited to a gastroenterostomy, for with a stomach freely drained, hemorrhage will not continue. As the perforation in acute gastric and duodenal ulcer is sudden and of large size, admitting of free transmission of stomach contents into the peritoneal cavity, prompt surgical treatment is alone indicated to save the life of the patient.

The operation for perforation must be both prompt, and quickly performed, the poured-out contents in the upper abdominal cavity gently sponged away, and if the abdominal cavity is infected, it should be drained by the introduction of a tube into the lowest part of the pelvic cavity, through an opening above the pubes. Too much sponging and irrigation by saline solutions can be of but little value, and may so impair peritoneal resistance as to encourage the rapid development of pathogenic bacteria. The perforation may be closed by one or more catgut sutures through the entire thickness of the wall, over which should be carefully applied Lembert sutures, so as to infold the tissues over the ulcers.

In 271 gastroenterostomies by Mayo, the mortality is 6 per cent; in 215 by Czerny, 5 per cent; Robson, in a long series of cases, 3.9 per cent; and in 100 consecutive operations by Moynihan, but 2 per cent, and only 6 of his 98 cases were not cured, and of these 6 three have been greatly improved,

and the other 3 are too soon after operation to say what may be the final result. In Czerny's cases there was no vicious circle, serious vomiting or obstruction. In most of Mayo's cases the gastroenterostomy was made anteriorly. His mortality and the immediate and subsequent results were not so perfect as in Moynihan's posterior gastroenterostomy of Von Hecker, as modified by Von Mickulicz and Czerny, by which the dangers of the *circulus viciosus* were eliminated by attaching the jejunum near its emergence under the mesocolon to the lowest part of the stomach, thus preventing angulation of the bowel. As the greater curvature of the stomach lies below the base of the mesocolon, the jejunum may be anastomosed from two to four inches below this point, without disturbing its normal relations or physiologic action, there then being no intestinal loop, and no afferent limb to become filled with bile, pancreatic secretions and stomach contents, abnormal conditions always present in the vicious circle. Czerny uses the Murphy button, usually supplemented by a circle of Lembert sutures, while Moynihan and Mickulicz use the suture, and Mayo in recent operations uses either the button or suture.

The vicious circle may also be prevented in anterior gastroenterostomy by making the anastomosis at the lowest part of the stomach, so as to avoid any stomach retention of food or biliary and pancreatic secretions, but this leaves the jejunum, colon and great omentum in an abnormal relation, and disturbs the normal physics, and it is probable that the gastro-jejunal opening will contract more readily than in the posterior method.

While the enteroenterostomies of Wolfler and Jaboulay in anterior anastomoses, and Roux in posterior anastomoses did much to evolve our perfect technic, we no longer feel the necessity of connecting the proximal and distal ends of the jejunum. The operation of Roux is theoretically ideal, but practically it is difficult, prolonged and dangerous, and the mortality would be prohibitory were it generally adopted.

In performing the posterior gastroenterostomy, it is better to suture the stomach to the margins of the opening in the mesocolon, to prevent the possibility of the intestine passing into the small omental bursa and becoming strangulated, as occurred in a fatal case reported by Moynihan. With the exception of the transverse incision in the bowel, the gastroenteros-

tomy with the suture or button should be completed just as in the anterior operation.

The Value of a Differential Leukocyte Count in the Diagnosis of the Diseases of Infancy.

By JOHN ZAHORSKY, M.D.,

ST. LOUIS, MO.

DIAGNOSIS of the diseases of infancy presents peculiar difficulties on account of the indefinite subjective symptoms obtainable, and any procedure which throws light on obscure morbid conditions is especially welcome. For many years clinicians have given much study to the changes in the blood as an aid to diagnosis. The many valuable hints which a study of the blood reveals is common knowledge.

The blood of infants also has not been neglected, and in the study of anemias and certain infectious diseases changes, more or less diagnostic, are often found. We all appreciate the aid given to diagnosis by the finding of a hyperleukocytosis, or demonstrating its absence. But I wish to call attention to a part of blood study, which is very simple in technic and needs neither great skill on the part of the physician, nor any great expenditure of time, which has not as yet been credited with its diagnostic merit when applied to infants. I refer to the differential count of the leukocytes.

The technic is simple, in that a small drop of blood thinly spread on a cover glass, slide or any small piece of glass, can be taken to the office, and where the count can be made at the physician's leisure. The blood is fixed, and stained with any good nuclear stain. On looking at the specimen, the clinician estimates whether there is a total increase of leukocytes. If this is great it can usually be perceived at the first glance. On a slip of paper the number of the different varieties of leukocytes in each field is noted. Beginning in the upper left-hand corner of the specimen, the slide is moved from one side to

the other, in each field the number of leukocytes are counted and written down in columns. While it is well always to note, in general, the presence of eosinophiles and myelocytes, the count must show the relative proportion of the polymorphonuclear leukocytes and the lymphocytes. Often it is well to separate into a distinct column the large mononuclear leukocytes. From 300 to 1000 leukocytes should be counted, the number varying with the accuracy desired. From the number counted the percentage relationship is established.

The different forms of leukocytes in infants present normally a relationship which is quite different from that of the adult. With the exception of the first few days of life, the lymphocytes are in excess. The relationship is well shown from the careful study of Carstanjen (*Jahrb f. Kinderhielkunde*, Volume 52):

1 to 6 months.—Polymorphonuclears 35 per cent, lymphocytes 50 per cent, transition forms 10 per cent.

6 to 12 months.—Polymorphonuclears 40 per cent, lymphocytes 50 per cent, transition forms 8 per cent.

1 to 2 years.—About the same.

These figures have been corroborated by Japha, and Knox and Warfield in this country.

I have myself made a differential count in nine healthy babies, their ages ranging from 2 to 20 months. The averages were: Polymorphonuclears, 35 per cent; lymphocytes, 55 per cent. I find, however, that in my own counts there were more large mononuclears and fewer transition forms than those given by Carstanjen. This is probably due to a different interpretation of many doubtful forms. It is well, therefore, to disregard the large mononuclears and transition forms which are in the least doubtful. Several recent authorities, however, have laid stress on the great increase of large mononuclears in malaria. Hence, it is well when this disease is suspected to carefully note the number of large mononuclears. A relative percentage of more than 10 per cent is strong evidence of malarial infection.

This normal ratio of infants is disturbed by a variety of morbid processes. In another place I have published some observations made this summer on the differential count in summer diarrhea, and have corroborated the work of Knox and Warfield, that a leukocyte count is of no diagnostic or prognostic value. A differential count, however, gives a good

index of the severity of infection after a number of days. Whenever there is a gastrointestinal infection, the polymorphonuclears increase and the lymphocytes diminish, so that the normal ratio is usually inverted. We will find that the lymphocytes may be 35 or 40 per cent, and the polymorphonuclears number 50 to 60 per cent. Now, this change does not take place in simple indigestion. Consequently, a differential count is very valuable in differentiating a simple indigestion from an infection, a diagnosis which is frequently fraught with difficulty on clinical grounds. Again, the greater the number of polymorphonuclears proportionately, the more severe is the infectious process and our prognosis must correspondingly be more guarded.

A differential count is helpful in the fevers of infancy. In pneumonia, pleurisy and scarlet fever the polynuclear cells are relatively increased. In all pneumococcic infections of the upper air passages there is a lessening of the lymphocytes. On the other hand, the lymphocytes are relatively increased in pertussis.

To illustrate this method, I will report a few recent cases:

CASE 1.—B., breast fed baby, aged 5 months, was suddenly attacked with an acute fever, which ranged from 101 to 105° in the first twenty-four hours. There was a case of typhoid fever in the same house, and the family lived in a part of the city which is very likely to be malarious. Physical examination of the throat, nose, chest and abdomen revealed nothing. The spleen was not enlarged. A blood examination showed a leukocytosis, and the ratio of polymorphonuclears to the lymphocytes was 51 to 42. The infant was given guaiacol carbonate as an intestinal antiseptic and the fever disappeared in three days. Some abnormal passages from the bowels on the following day strengthened the belief that it was a gastrointestinal infection without any symptoms referable to this tract.

CASE 2.—In a similar case in a baby, 4 months old, there had been one or two mucosanguinolent stools, which was followed by a very high intermittent fever. No plasmodia were found, but the relative increase in polymorphonuclears spoke for gastroenteric septicemia in absence of any other evidence of infection. The fever lasted for three weeks and was unaccompanied by any marked gastrointestinal symptoms.

CASE 3.—Another interesting case was that of Baby G., who had for some months a slight irregular fever with the physical signs of bronchitis. The question of pulmonary tuberculosis was made improbable by finding a relative increase in the polynuclear leukocytes—50 to 45.

CASE 4.—Baby W., aged 14 months, was brought to me on account of marked wheezing in the chest, and cough; there was no fever. The question of an infection of the bronchial tubes or asthma came up for differential diagnosis. The absence of fever argued against grippal or pneumococcus infection. On the other hand, the persistent symptoms were rather unusual in asthma. An examination of the blood revealed the relationship of polymorphonuclears and lymphocytes not disturbed—40 to 56. The diagnosis was corroborated by finding an increase in the eosinophiles.

CASE 5.—A peculiar exception to this rule was in a case of bronchopneumonia seen at the Polyclinic, in which, while the total number of leukocytes were increased, the lymphocytes stood in relation to the polymorphonuclears as 60 to 30. The suggestion that it was really a pertussis pneumonia was not corroborated clinically.

CASE 6.—A case of severe rachitic symptoms with laryngospasm and death, the relationship was not changed from the normal.

CASE 7.—Another case was that of H. S., having a marked spasmodic cough, but in which pertussis was excluded because there was an increase of the polymorphonuclears.

CASE 8.—A typical case of pertussis in a child, aged 6 years, with febrile symptoms, which subsequently proved to be typhoid, showed the ratio of polymorphonuclears to lymphocytes as 27 to 69, a great increase in the lymphocytes.

We can not conclude that this indication is invariable, on the contrary, allowance must always be made for a possible lack of reaction on the part of the infant to the stimulus of the infectious process. But, as a rule, the leukocytes undergo the changes mentioned, and more extended study may show a great field of usefulness. At any rate, I am convinced from the studies made that the differential count in infancy has a greater diagnostic import than in adult life or even in children.

Angioneurotic Edema.

Report of a Case.

By M. GEORGE GORIN, M.D.,

ST. LOUIS, MO.

ON the afternoon of July 20, 1903, I was called hurriedly to see Willy M., aged $2\frac{1}{2}$ years. I found the patient a well developed baby, who had enjoyed good health until the present illness which had lasted some four or five days previous to my first visit. Both parents were in the best of health as were an elder brother and sister. The mother stated that her child had been feverish and restless at night for several days past and had no desire to eat, though he had complained of no nausea. The urine had been scanty and high colored, bowel constipated. The case had been diagnosed malaria and treated accordingly. I saw the case first at 3 p.m., and the mother informed me that the child had not urinated since the preceding evening. When stripped for examination the child presented a most peculiar appearance. The right side of the face was swollen, but not discolored, the right eye being almost closed by the puffiness of the lid. On the left buttock and upper portion of the left thigh several patches were present, the largest being nearly the size of the palm. These patches were raised above the general surface, but did not pit on pressure and in one or two of the largest a faint purplish ring could be seen at the periphery. The right wrist and left ankle were also swollen, but not discolored, nor was motion of the joints painful. There was no swelling of the mucous membranes of the mouth, save the upper lip, which was swollen as though from a bee sting. The genitalia were enormously enlarged, the scrotum being the size of man's fist, and the skin of the penis correspondingly swollen. This swelling extended also well up into the hypogastric region. Aside from this rather startling external appearance physical examination revealed nothing abnormal. Temperature 98° , pulse and respiration normal. The swelling was attended with no itching whatever. I was at a loss for a diagnosis accounting for the symptoms presented, but from the history of anuria, and the appearance of the genitalia, directed my attention to that region. Percussion gave no evidence of distended blad-

der, nor would the swollen condition of the foreskin admit of confirmation by catheter. I determined therefore to circumcise the child, and removed an enormously swollen foreskin, and at the same time made several exploratory punctures into the scrotum, which did not serve to reduce its size as it would in case of ordinary edema. I then catheterized the child and found the bladder absolutely empty. I directed that the scrotum be kept moist with liquor subacetat. dil., and administered a combination of kalium citrate and sodium salicylate with the idea of stimulating the kidney and skin. An enema of epsom salts and glycerin was give immediately. The condition of the child was good and I did not think it necessary to administer pilocarpin until measures less drastic were given a trial. I must confess that my diagnosis was not made until after considerable perusal of the literature, when I decided that it could be nothing else than angioneurotic edema. My fears as to the renal insufficiency were entirely allayed when the child passed a full stream when I was in the act of changing the dressings on the day following: After this time there was no disturbance of the kidney functions, and within forty-eight hours all skin lesions had vanished.

Angioneurotic edema was first described by Quincke some twenty-five years ago, and by many others since that time. It is characterized by circumscribed swellings on the skin, and subcutaneous tissues and occurs also on the mucous membranes. There is rarely any fever though the the temperature occasionally rise 1 or 2 degrees. According to most authorities it is a disease chiefly of adults, children and the aged being rarely attack. The etiology is somewhat obscure, gastrointestinal disturbances, malaria, and the indigestion of certain articles of food have each been held responsible for an outbreak of this condition. It is considered as a vasomotor neurosis, and is probably a symptom occurring in the course of a disease, similar, for example, to purpura, to which by some authorities it is considered closely allied.

The disease is usually harmless and runs a short course, unless a dangerous or fatal issue should occur through involvement of the upper air passages. Osler reports two cases of fatal edema of the larynx from this disease. These occurred in a family where the disease was hereditary for five generations, twenty-two different members having been affected with it.

Brief Notes on Three Cases of Strangulated Hernia.

By JOHN YOUNG BROWN, M D.,

Superintendent of the City Hospital.

THE first was a woman, aged 54 years, who had had a femoral hernia for eight years. When admitted to the Hospital the hernia had been down for thirty-five hours. The patient was vomiting, pulse bad. Examination showed a tumor well above Poupart's ligament, the neck of the sac being acutely flexed, making it difficult to tell whether the hernia was an inguinal or a femoral one. She was immediately prepared for operation. On opening the sac, a loop of small bowel was found, tightly constricted, the constriction being at the neck of sac; the bowel was black, necrotic in spots and denuded and did not respond to hot saline solution, and resection was deemed advisable. A supplementary median incision was quickly made, the bowel was pulled through this incision and ten inches of the gut resected, an anastomosis being made with a Murphy button. The median wound was closed and a radical operation was done at the hernial site, after the method of Bassini.

The operation was done in forty minutes. Both wounds healed by primary union. The button was passed on the twentieth day.

The second case was similar to the first. The patient, a negro, aged 31 years, was admitted to the Hospital with a strangulated inguinal hernia of the right side. He had suffered from hernia for a year and a half, and the hernia had been down for eight hours. This case presented identically the same symptoms as the first case. On opening the sac, a loop of small bowel, black and necrotic, was found. As in the first case, a median incision was made, the bowel drawn out and twelve inches of gut resected, the anastomosis being made with the Murphy button. The median incision was closed, followed by a radical Bassini operation. The operation was done in forty-five minutes. The wound healed by first

intention the button was passed on the eighth day, and convalescence was uneventful.

The third case was operated on four days ago; I can not bring him out into the clinic, but, will say that he is in good shape and out of danger. The case was a right side strangulated inguinal hernia, down nine hours. The conditions on opening the sac were practically the same as in the case. The same procedure was gone through with, viz, resection through supplementary median incision, followed by radical operation. Time of operation one hour and five minutes.

I hope in the near future to discuss these three cases fully, in a paper. The cases are unique and the results are exceptional, as the mortality following primary resection is from 30 to 40 per cent.

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

Postoperative Femoral Thrombophlebitis.

Clark (*Univ. of Penn. Bull*) discusses the etiology of postoperative femoral thrombophlebitis. In 25 cases of Clark's series the left leg was affected, in 11 the right leg and in 5 both legs; in 4 cases the operation was confined to the right side with the occurrence of the thrombus in the opposite leg. An interesting and significant point in these cases was the relatively late occurrence of the symptoms. The earliest day was the eighth after operation, the latest the thirtieth. Clark discusses the theories which have been advanced in explanation of the formation of thrombi and concludes with his own theory, as follow: That the usual femoral thrombophlebitis which occurs as a sequel to celiotomy is noninfectious, originating from a primary thrombus of the deep epigastric veins, which is slowly propagated along the line of the vessel until it reaches the external iliac, where it gives rise to a retrogressive thrombus in the femoral vein. Appended to Clark's article is a tabulated chart giving a critical analysis of 41 cases of postoperative thrombophlebitis.

LEADING ARTICLES.

SERUM THERAPY OF TYPHOID FEVER.

By E. A. BABLER, M.D., St. Louis.

Typhoid fever is recognized as one of the most serious, widely distributed and protracted of all acute infectious diseases. Years lapsed into centuries before Louis gave this fever the name, "typhoid." To our own Girard, however, is due the credit of having been one of the first to clearly differentiate between typhoid and typhus fever. Eberth spent many years of diligent research trying to find the true cause of this dreaded disease—a disease that even at the present day claims from 50,000 to 75,000 lives in the United States annually. When the assertion of Eberth was determined to be true, then came Koch with the statement that prophylaxis was the important watch-word. This latter investigator has recently successfully demonstrated the truthfulness of his claim—that by isolating the typhoid fever patient, destroying the dejecta and disinfecting the clothing it is possible to stamp out the disease. Many investigators hold that by guarding the water supply it is possible to control the disease, and yet, the careful thinker and experienced investigator will readily admit that Koch's method protects the water supply by destroying the source of contamination.

The worthy Brand gave us a most excellent and beneficial method for the treatment of typhoid cases, but ever since the illustrious von Behring presented to us the specific serum for the treatment of diphtheria—thus permitting the saving of millions and millions of human lives, we have been endeavoring to secure a similar treatment in typhoid fever. One of the first things that presented itself to the investigator was, that in diphtheria we are dealing with a toxemia, while in typhoid fever we have to deal with a bacteriemia, hence the problem of serum therapy of typhoid seemed to be the preparation of a serum which is principally bactericidal and not especially antitoxic. Recent

investigations, however, seem to indicate that the antiserum shall be at one and the same time antitoxic and bactericidal.

Deutsch¹ concluded that all strongly agglutinating sera are also strongly protective, but that highly protective sera may contain but little agglutinin.

Johnson² found that actively-growing cultures of typhosus often tend to agglutinate spontaneously, while slowly-growing cultures do not.

Relative to agglutination, Walker³ adds (having previously concluded that it occurs in relation with any microbic fever) that it is adjuvant to the leukocytes and the associated immune body by arresting the rapidly moving bacilli and bringing them together in masses more easily approached and more conveniently attached than are the free, active, tiny micro-organisms.

Chantemesse⁴—we were about to say the “von Behring of France,” was the first to produce a serum for the treatment of typhoid fever. Many years were spent before he succeeded in securing a suitable serum and many more before its value could be even approximately demonstrated. Chantemesse cultivated the bacteria upon a filtrate of splenic tissue digested with pepsin, carefully avoiding the access of air, since the latter destroyed the poisonous properties of the fluid, which latter was found quite toxic.

By injecting minute doses of the fluid into a horse for one year until immunization was established, he thus secured a serum which he found by experiments on guinea pigs, etc., to be both curative and protective. He then treated one hundred typhoid patients with the serum and recorded a mortality rate of only 6 per cent.

Before the Egyptian Medical Congress, Chantemesse⁵ stated that he had been able to reduce the former typhoid fever mortality of 12 to 19 per cent to less than 6 per cent. More than 500 cases had been treated, with only 30 deaths. He stated that one of the most excellent examples of the power of the serum is shown in the rapid healing of typhoid osteitis and periosteitis after local injection of the serum. Several cases in which existed inflammatory osteoperiostitis, suppurating for years, soon healed under the influence of a drop or two of the serum repeated every fifteenth day. The difference between the aspect of the organs of treated and non-treated animals is apparent to the naked eye. In the animals treated with the serum the spleen and mar-

row show an enormous reactionary hypertrophy of the lymphoid and myeloid tissue, while in the non-treated animals the lymphoid apparatus exhibits a slight deleterious reaction.

Chantemesse believes that the serum stimulates to extra activity not only the phagocytes but also the apparatus which produces them, if the latter is still capable of responding to such stimulus. It is evident, therefore, that the serum should be administered at the onset of the disease. If administered at a time when the system is saturated with the infection it must be applied with caution and weak doses given so that no harm will be invoked by the reaction.

At the Fourteenth International Congress of Medicine, held in Madrid, Spain, in April, 1903, Josias⁶ reported fifty cases treated by serotherapy.

Chantemesse⁷ commented upon the subject and stated that the benefits obtained from serotherapy in typhoid fever were very great and no ill effects had so far been noted. One cc. had been injected for every 70 pounds of the patient's weight unless there was evidence of unusual depression. The effects are a reduction of the temperature, an abbreviation of the attack, and diminished tendency to relapses and complications, besides a marked improvement of the mortality rate. He remarked that his present mortality was only 4 per cent, while 14 per cent was the average rate in other Parisian hospitals.

Chantemesse holds that experience and skill are necessary for the proper administration of the serum. He always supplements serotherapy with balneotherapy.

Fränkel⁸ has suggested that typhoid cultures might be used for treating typhoid fever. He destroyed cultures grown in thymus bouillon by exposure to steam. Injection was begun with 0.5 cc., followed in 24 hours by 1 cc., then in increasing amount every 48 hours until as much as 5 cc. was administered. He reports 57 cases in which the results obtained are reported as "effective."

Lambert⁹ has reported 13 cases and Henshaw¹⁰ 38 cases in which serotherapy produced satisfactory results—both claim the results to have been highly satisfactory.

Pollak¹¹ used the serum from convalescent typhoid fever patients in 18 cases and the results obtained were not worthy of special mention—in fact, he was not favorably impressed (?)

Pope¹² reports 3 very severe cases of typhoid treated by serother-

apy, in each of which the treatment was of very decided benefit; the duration of the attack was shortened and the severity controlled.

Cooper¹³ and Steele¹⁴ report similar results.

The work of Bokenham¹⁵ has been quite extensive and thorough. He prepared an antityphoid serum of marked potency by immunizing the horse after the method of Wood. By filtration of the culture he obtained a fluid innocuous, giving no symptoms after injection, other than a slight rise of temperature. He was able to demonstrate the presence of a substance chemically similar to one found by himself and Fenwick in the spleen of typhoid patients during a previous research. The serum obtained could not be proven to possess any action against the toxic filtrates of old and dead cultures.

Bokenham, in connection with the preparation of antistreptococcic sera, suggested the idea of obtaining a polyvalent serum, and pointed out that we can not assume that all streptococci possess the ability to modify their pathogenic action. He concluded that, even if an antistreptococcic serum be prepared of protective and curative value for its own variety of streptococcus, it will not necessarily be efficient against other varieties of the organism. However, he does not seem to have arrived at the same conclusion relative to an antityphoid serum, even though Dunham¹⁶ and others have demonstrated that the *Bacillus typhosus* also exists in many varieties.

Bokenham considers antityphoid serum as bactericidal in action. No patients were treated with the serum obtained by him.

Tavel¹⁷ made extensive research along the lines outlined by Bokenham, and tested the serum clinically with very encouraging results. Tavel found that by means of this serum he could abolish the plateau stage of typhoid fever—the fever falling by lysis and the patient making a rapid recover. The researches of Tavel have been extended by Walker,¹⁸ who presents the following conclusions:

1. It is possible to obtain a serum by immunization of horses against the *B. typhosus*.

2. The initial stages of the preparation may be greatly shortened by adopting the method used by Bokenham.

3. A high degree of immunization must be obtained, and the employment of living cultures in the later stages is desirable.

4. The serum must be made widely polyvalent by the use of as many and as largely different races of typhoid as is practicable.

5. The relative value of the serum obtained may be determined by a determination of its relative agglutinative power.

6. It is open to question whether the efficiency of the serum might not be further increased by immunization of the horse against the *B. coli* also, or by the addition to the serum of a certain proportion of anticolon serum from a horse treated with that organism.

Ewing¹⁹ finds that the bacterial agent in typhoid fever may show wide variations in its biological characters and in the quality of the agglutinating substance which it causes to be elaborated in the system, while Chantemesse and Widal have proven that their procedures which render animals immune to infections of the products and macerated bodies of these bodies.

Jatta's²⁰ studies indicate that within from two to three days after inoculation the agglutinins of the spleen exceed those of the blood, but later the latter is always the stronger.

Cooper²¹ treated a case of typhoid fever with the usual methods without benefit. He then decided to inject 3 cc. of an English preparation of antityphoid serum. A few hours later the temperature reached 102°. The following day the patient felt better, the pulse was strong and the fever less. The following day 7 cc. were injected. Three hours later the temperature reached 102°, and six hours later it registered 103.5°. The patient's speech became affected, he did not recognize objects, seemed dazed. The pulse was slower and stronger, and the abdomen remained unchanged. On the following day the temperature was 99° and the pulse 94. In the course of a few days the fever subsided, but the speech affection remained for some time.

Macfadyen and Rowland²² have prepared a powerful extract of typhoid bacilli by means of a special grinding apparatus. The mass thus obtained is then exhausted with physiologic salt solution. The extract is highly toxic for monkeys and guinea pigs. These investigators were able to successfully immunize a rabbit and a monkey against this extract and secured agglutination of the living cultures after one injection. These animals produced a sera that protected other animals against several times the fatal dose of the extract and of the living typhoid cultures. The curative power is shown by the fact that an animal can be saved when the serum treatment is instituted within eight hours after inoculation.

In this connection we can not help but mention the valuable work

of Jez,²³ who prepared an organic extract from the spleen, marrow, spinal cord, brain and thymus of rabbits which he had immunized against typhoid fever and treated typhoid patients with it. It is administered by the mouth in tablespoonful doses.

Jez claims that the extract is: 1, harmless; 2, aids in diagnosis; 3, specific against typhoid fever only; 4, if given uninterruptedly in typhoid it decreases the temperature and strengthens the pulse; 5, it shortens the duration of the disease, diminishes or neutralizes completely the effect of the typhoid toxins, and 6, the simplicity of administration.

Sibaldi²⁴ reports three cases, but states that the impression made by the extract was quite favorable. The effect is manifested by the second day, and by the third day favorable symptoms present themselves.

Einhorn²⁵ has recently presented a report of ten patients treated with the antityphoid serum of Jez and Tavel, of the Berne Board of Health, and draws the following conclusions:

1. In most cases the disease does not seem to have been materially shortened.

2. Either on the day after the first, or on that after the second injection, a marked reduction of fever usually occurs, this is about 1 or 2° lower than previous remissions and lasts longer. The sensory and nervous symptoms are much improved, so that grave complications, *e.g.*, insomnia, delirium, etc., disappear nearly entirely.

Einhorn used subcutaneous injections because his supply was small. He feels confident that the serum treatment of typhoid is of decided benefit and without danger. To the close observer the field presents a most flattering outlook and we feel confident that serum therapy has come to stay. We trust that the subject will receive the attention of more American investigators.

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RECENT ADVANCES IN OUR KNOWLEDGE OF TETANUS.

It had no sooner been proved that tetanus was produced by a specific bacillus which induced the characteristic symptoms by a toxin which had a peculiar affinity for nervous tissue, when it was generally assumed that the toxin reached the central nervous system by means of the circulation and the prompt neutralization of the poison in the blood would cure the disease. But how bitterly we were disappointed! We not only failed to cure, but the disease showed certain anomalies which were inexplicable. It was assumed that the toxin became firmly attached to the nerve cells before the onset of symptoms and could not be removed by any antitoxin. Indeed, Wasserman had clearly demonstrated that cerebral tissue had an affinity for tetanus toxin and was capable of neutralizing the latter, but Besreda (*Annals de l'Inst. Pasteur*, 1903) found that this combination was very loose, so that the toxin would leave the brain cells to unite with antitoxin.

Another difficulty lies in the incubation of tetanus. Even when the toxin is injected some time elapses before the symptoms appear. All these facts gave the subject a constant interest.

Some of these obscure points have received much light by the experiments of Marie and Morax in France, and Meyer and Ransom in Germany. It appears from their experiments that the principal disease-producing toxin reaches the central nervous system by being absorbed by the nerve endings in muscles and other tissues and passing through the axis cylinder of the nerves. Not only motor but also

sensory and sympathetic fibers absorb the poison. Some nerves absorb the poison more quickly than others, and the shorter the nerve the more rapidly do the symptoms appear. It requires time before the toxin reaches the central ganglia and this explains the incubation.

It is questionable if this discovery will, as yet, assist in the treatment of the disease, since it will be manifestly impossible to inject antitoxin into all the nerves, for this, theoretically, would seem the most rational method of treating tetanus.

THE QUININ DERIVATIVES.

Every practitioner is interested in the quinin derivatives, as its potency as a remedial measure is generally prized, while its imperfections are too well known. Various chemists are endeavoring to modify its disagreeable effects by introducing other chemical radicals into its composition. What has been done in the last few years can be seen from the following list, prepared by Coblenz (*Journal of the Society of Chemical Industry*):

QUININ DERIVATIVES.

Aristochin (Elberfelder Fabrik).—A diquinin carbonic ester, $\text{CO}:(\text{OC}_{20}\text{H}_{23}\text{N}_2\text{O})_2$, which forms a tasteless powder fusing at 189°C . Of all the quinin preparations this contains the largest percentage of alkaloid, namely, 96 per cent.

Euchinin (Zimmer, Frankfurt).—Quinin ethyl carbonic ester, $\text{C}_2\text{H}_5\text{O CO OC}_{20}\text{H}_{23}\text{N}_2\text{O}$, forms tasteless needles fusing at 95°C . The inorganic soluble salts of euchinin possess the bitter taste of the alkaloids.

Quinin Chlorocarbonic Ester (Zimmer, Frankfurt)— $\text{Cl CO OC}_{20}\text{H}_{23}\text{N}_2\text{O}_2$. Tasteless crystals, fusing at 187°C .

Salochinin (Elberfeld Co., also Zimmer Co.).—The quinin ester of salicylic acid. Insoluble crystals, which fuse at 130°C .

Rheumatin (Zimmer, Frankfurt).—Salicylate of salochinin. This fuses at 179°C .

Bromchinal (Zimmer, Frankfurt).—Quinin dibromo-salicylate. This fuses at 198°C .

Chinaphtol (Merck).—Quinaphtol. Beta-naphthol monosulphonate of quinin. This fuses at $185\text{--}186^\circ\text{C}$.

Quinin Lygosinate (Zimmer, Frankfurt).—Quinin di-o-cumaric ketone, $(\text{C}_{20}\text{H}_{23}\text{N}_2\text{O})_2\text{O C}_6\text{H}_4\text{CH:CH CO CH:CH C}_6\text{H}_4\text{O}(\text{C}_{20}\text{H}_{23}\text{N}_2\text{O}_2)$. This salt is employed exclusively as an antiseptic. It fuses at 114°C .

Among the derivatives of minor importance are Acetyl quinin (m. pt 108°C .), Ethyl quinin (m. pt $116\text{--}117^\circ\text{C}$.), Quinin acetylsalicylate, Quinin sulphoguaiacolate, Quinin sulphocreosote, Quinin urethane, and Quinin carbamido dihydrochlorid, $(\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_2)\text{HCl}+\text{CO}(\text{NH}_2)_2\text{HCl}+5\text{H}_2\text{O}$; the latter three, because of ready solubility, are adapted for hypodermic use.

THE MODUS OPERANDI OF BLISTERS.

It is worth while to review our theoretical knowledge of common therapeutic procedures to see whether we really have advanced in certain branches of scientific medicine. There are many remedial agents, the efficacy of which have been proven by many years of practical experience, but the actual *modus operandi* is obscure. We have many such empirical remedies and it is unfortunate that more investigation is not applied to them.

The external application of irritants, epispastics, does undoubtedly modify morbid processes, but it is another question to answer as to how these diseases are modified and what is the *modus operandi*.

In the early part of the Nineteenth century this subject occasioned many disquisitions and heated controversies. There was some one who argued that the effect of the blister was caused by the absorption of the cantharis used in producing it. A very popular theory was that it acted through the medium of sympathy. We have, of course, dropped this concept, and that of reflex action has been greatly overdone. Given a severe pain in the pleura and relieved by a blister externally, the action may be explained by reflex action, or referred sensation, but there exists a general impression that congestion is relieved and resolution and repair favored.

The theory of chemotaxis and phagocytosis has been utilized in elucidating this process. The irritant causes an additional advance of the leukocytes which, by phagocytosis and antitoxin formation, destroy bacteria and aid in absorption.

But the truth is that little exact experiment has been applied in order to throw light on a very important therapeutic measure and hence its practical application is still empirical.

EDITORIAL COMMENT.

Another Method of Artificial Respiration.

It seems almost inconceivable that another method of artificial respiration should be added to our long list. It would seem that the method of Marshall Hall, or that of Sylvester, or the excellent method of Howard would supply all the needs of artificial respiration. To

these may be added Laborde's tongue traction as applicable in many cases.

At a recent meeting of the Medico-Chirurgical Society, London, Schafer describes a new method. His method differs from the others in that he keeps the patient prone, with a folded garment under his chest. By grasping the side of the chest and making firm pressure upon it the air is expelled. When the pressure is slowly relaxed air enters the chest as it expands from its own resiliency. The process is repeated twelve to fifteen times a minute. The special advantages claimed for this method is that there is no danger of laryngeal or tracheal obstruction and no danger from the manipulations to the internal organs.

Another Method of General Anesthesia.

Such a high authority as Volkmann has given his approval to the method of anesthesia induced by scopolamin and morphin. He regards the method as perfectly safe and lacks the disagreeable features incident to inhalation anesthesia.

Four hours before the operation 12 decigrams of scopolamin hydrobromate and 1.5 centigrams of morphin are injected hypodermatically. Two hours later the same drugs and dose are given in the same way. Immediately preceeding the operation one third of the above doses are injected. The patient goes to sleep after the first dose and becomes entirely insensible after the second injection and lasts for several hours after the last injection.

The method certainly seems very attractive and if future investigations shall prove that it is as safe as ether narcosis its more general employment may confidently be expected.

Seasickness.

Several articles on this subject have appeared in different journals during the past few months, and it is surprising how much can be said in a theoretical way on this important subject and still add nothing to the knowledge of the disease. One writer brings forth the old treatment of keeping the bowels open; another treats the vasomotor system; a third believes that the disease can be kept down by a cheerful disposition and inattention to the prevailing symptoms; and, lastly,

one writer has argued that if the patient will sit in front of a mirror so that the patient's motion and the objects of vision will move at the same time, seasickness can be averted and cured

And the speculative pathologist has attempted to find the source of the trouble in the eyes, semicircular canals of the ears, the cerebral cortex, the stomach, etc.

We really need some careful experimental investigation in order to throw some light on the origin of this distressing affection.

Enthusiasm in Bacteriology.

We must admit that we have little sympathy for the scientific gentlemen who can not stand a little feeling, sentiment or enthusiasm in medical investigations. Here and there in the medical world we hear the voice of protest. Bacteriology is not the whole of medicine, it is claimed, and some even go so far as to decry all bacteriological research. The bedside is the proper place for research, and test tube therapeutics should be entirely disregarded. Rosenbach in a very interesting monograph (Funk & Wagnalls Co.) takes this negative stand and one gets the impression that the practitioner needs defense from the bacteriologist's attacks. He protests against test-tube pathology and therapeutics, and while in the main his arguments are good he neglects the fact that the practitioners of medicine do not accept the dicta of the test tube. On the contrary, every rational physician knows that the test tube only makes the suggestion, which must be rigidly examined at the bedside.

No, we admire the enthusiasm of the bacteriologist, but we always reserve the right of examining his dicta by clinical investigation. It is only since the bacteriologist and practitioner work hand in hand that medicine has made gigantic strides.

Predisposition and Infection.

Of what benefit is this controversy concerning predisposition and infection? No scientist denies that there must be predisposition before infection takes place, but, on the other hand, those who always stand on predisposition must admit that it is only a relative term and the micro-organism is necessary. Both are important, both should be

studied, and only in this way will the ultimate truth be reached. But there should be no cry on the part of the practitioner that calls a halt to the enthusiasm of those who study infections or immunity, and any controversy between them as to the relative value of each of these processes seems puerile.

"The Journal of the Missouri State Medical Association."

We are glad to welcome this journal in our midst. While, in general, the wisdom of starting a new medical journal may be questioned, it has become a general custom for medical associations to publish a periodical, and there seems no good reason why the State of Missouri should not thus be represented. There can be little doubt that the interest of State Associations is better served by a monthly magazine than by publishing an annual volume. We are glad to see that the energetic Secretary of the Association, Dr. C. M. Nicholson, has assumed the editorial management.

Animal Experimentation.

Here in the West we hardly realize to what proportion the fight on vivisection has assumed in England and in the Eastern States of this country. Dr. Ernst (*Bost. Med. and Surg. Jour.*, July 14, 1904) in a concise and conservative article gives some details of the struggle. While the Society for the Prevention of Cruelty to Animals has done great work and a work that is to be encouraged, in late years under a few enthusiasts the Antivivisection Society has gone to ridiculous extremes. Not only do they encourage a spirit of kindness toward domestic animals, but their ardor and enthusiasm has become boundless, and an animal is regarded as a fetich. For we see anything and everything to which an animal may serve and in which it may suffer or even feel uncomfortable decried in the strongest terms. Hunting or fishing, the use of animals for food, the employment of animals for medical purposes, and especially animal experimentations are condemned. No wonder that the natural result of this doctrine crops out, namely, the condemnation of vaccination, serum therapy and even drug therapy. Therapeutics by suggestion is highly indorsed.

But, perhaps, even these extremists have their place in human conflicts, it will stimulate the profession to greater scientific endeavor.

Marmorek's Serum in the Treatment of Tuberculosis.

The *Medical Record* of June 11, 1904, has a very interesting editorial on the serum treatment of tuberculosis and cites Jacquerod's article in the *Revue de Medicine* of May 10, 1904, that "we have the impression that up to to day it (the serum treatment) is the most important and useful discovery that has been made in this field."

While there is no doubt that this treatment occasionally acts brilliantly, the past experience in such sera is not very encouraging, and Marmorek certainly deserves credit for keeping up interest in what we regard as a failure in therapeutic effort.

Heart Disease as an Obstetric Complication.

Bacon discussed this subject before the Obstetric Section of the American Medical Association. He recalled the fact that heart disease may be due to pregnancy and labor, but in pre-existing heart disease there is a tendency for the pregnancy to aggravate cardiac symptoms. "Abortion was the usual effect of heart disease on pregnancy, while dyspnea, bronchitis, edema, palpitation, indigestion, etc., were the effects of pregnancy on heart disease." There is a greater liability to infection of the respiratory tract during the puerperium and adds to the gravity of the case.

In spite of much discussion on this subject nothing is more uncertain than in giving a prognosis in a case of cardiac disease complicated by pregnancy.

Exercise in Relation to Diabetes.

Barkan (*Med. Record*, June 11, 1904) draws attention to the influence of exercise on sugar catabolism in diabetes by the report of cases in which sugar disappeared on increasing the exercise, and a sloughing wound in a diabetic healed on ordinary daily walks of eight miles. The relation of exercise to the destruction of sugar deserves more recognition, and the experimental data on this point are as yet deficient. Several years ago Kültz showed that in many cases muscu-

lar work materially decreased the excretion of sugar. Permanent improvement has been obtained in many cases by muscular work and Bonchardat was enthusiastic in its praise in selected cases. But there are other forms in which no amount of muscular work has any effect on sugar catabolism and probably increases to a deleterious extent the proteid destruction.

Shorten the Time from the Cow to the Baby.

American Medicine prints a timely editorial on this topic. Much has been done to prove the value of keeping milk cold, and great energy has been expended in endeavors to increase the keeping qualities of milk, but what is really needed more than anything else is to shorten the time which is used to deliver the milk from the cow to the baby. We believe laws should be passed making a maximum time for the different seasons in which milk is to be delivered.

That this time could be materially shortened there can be no doubt whatever. We believe that the time will soon arrive in which it will be regarded as almost criminal to deliver milk more than twenty hours old. The time in summer should be reduced to six or twelve hours, and with intelligent co operation on the part of the farmer, railroad and city dealer it could be done.

Serodiagnostic Tests for Tuberculosis.

Much work on this subject has been done by German, Italian and French investigators in the last few years, and yet, up to date, nothing very definite has been accomplished. These serodiagnostic tests have been especially recommended by French investigators, while several German authorities deny their clinical value. At any rate, the practical physician will still depend on a clinical diagnosis rather than a serum test in the near future. The agglutination of tubercle bacilli is too uncertain in its action to be used for diagnostic purposes.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Chronic Pancreatitis.

Boeckmann (*St. Paul Med. Jour.*, July) is unable to find in literature that the diagnosis of chronic pancreatitis has ever been positively made except on the operating or post-mortem table.

There are, at present, no pathognomonic symptoms. In the hypertrophic state, the affected portion of the gland is swollen and tender to the touch and it would be of immense assistance if this swelling and tenderness could be demonstrated by digital palpation. Chronic pancreatitis may cause jaundice from compression or obstruction of the common duct. It may cause ascites from pressure on the portal vein. Also dropsy from pressure on the inferior vena cava.

Fat necrosis, when the abdomen is opened, is very suggestive. Indicanuria is probably always present and should be investigated.

The test, which is thought may prove helpful, "pancreatic reaction," according to Trevor: The urine from a suspected case is boiled for a short time with an oxidizing agent, the phenyl-hydrazin test performed, when an abundant crop of delicate yellow needles arranged in sheaves or rosettes is produced. Emaciation is prominent; fever is ordinarily absent, but in some cases runs a hectic course.

Subphrenic Abscess.

Lunn (*Jour. Mich. State Med. Soc.*, June, 1904) lays stress upon the previous history, empyema seldom occurring without previous symptoms referable to the lungs, while subphrenic abscess is as invariably without them. The upper border of the exudate into the free pleural cavity generally assumes a characteristic curve with concavity upward, and the dulness changes with change in the position of the patient; while in subphrenic abscess the upper limit is either a straight line or convex upward, and if no gas is present in the abscess cavity, the dulness does not alter with change of the patient's position. In aspirating, it is claimed that the pus escapes during expiration if a supra- and in inspiration if a subdiaphragmatic abscess. The possibility of both must be kept in mind and a bad odor to the pus rather points to a sub-abscess.

The Diagnosis of Supra- and Subdiaphragmatic Suppuration.

Eastman (*Cin. Lancet-Clinic*, July 2, 1904) gives the usual physical signs of pleural empyema. A walled-off subdiaphragmatic empyema may at times be difficult to distinguish from liver abscess. In liver abscess the patient will complain of the dragging weight, of the liver. In hepatic abscess the symptoms are pronounced and though there be dyspnea the preponderance of intestinal symptoms, such as nausea, vomiting, loss of appetite and disturbed conditions of the lower intestinal tract, as diarrhea or constipation, will suggest hepatic disease. Dysentery, with discovery of ameba in the intestinal discharge will, in the presence of inflammatory hepatic symptoms, at once suggest hepatic abscess.

Abdominal Pain from Unsuspected Irritation at the Internal Hernial Ring.

Stockton (*Amer. Med.*, June 25, 1904) cites cases which have been taken for instances of chronic appendicitis, nephrolithiasis, and questionable affections of the colon. In his experience the condition has always been found in male adults, usually men of relatively active life.

The chief symptoms complained of is pain, generally referred to the lower quadrants of the abdomen, but occasionally appearing in the upper quadrants as well. Sometimes this pain is described as colicky in character; sometimes as a continuous misery; at other times as burning in character and suggesting irritation of the peritoneum. Generally these and the other symptoms are relieved when the patient lies down. As a rule, exercise increases the distress and especially lifting or other efforts causing increased intra-abdominal pressure.

The anatomic basis for these symptoms is to be found in a slightly over-patulous state of the internal hernial ring; not a condition so advanced as to admit of evident and easily-recognized protrusion of the intestine or omentum, but one in which a slight bulging may be detected on palpation, when the patient undergoes abdominal strain, such as is produced by bearing down or coughing. The sensation communicated to the palpating finger is often quite unlike that of ordinary hernia. It is as though a very thin and almost inappreciable membrane presented at the opening in the inguinal canal with a sensation of slight elasticity, as though a moderate gaseous pressure was operating behind it.

Bladder Symptoms in Appendicitis.

G. Baradulin (*Ibid.*, abstract) dwells on the disturbances of the urinary function in appendicitis. These symptoms are either reflex in character or they are due to direct involvement of the bladder walls. The reflex symptoms consist in retention or increased frequency of micturition as this case may be, while the other kind of symptoms is caused by a pericystitis, which is distinguished from cystitis by the clear urine.

The Nails

May be found very brittle or irregular, with nodular thickening near the free edge; both conditions are the result of syphilis; occasionally from syphilis the nail is partially or wholly separated from the matrix and slowly shed. If the end of the finger is bulbous and reddened, the nail is discolored and out of shape, and beneath it is seen a foul ulcer of the matrix with dark discharge, it is *onychia maligna*. Inquiry should be made for evidence of syphilis and tubercle; the disease is often started by injury.—“Elements of Surgical Diagnosis.” Gould.

Clinical Diagnosis of Lesions of the Pancreas.

The importance of the pancreatic functions in the maintenance of health is now universally recognized, and in consequence, the pathologic conditions affecting the gland are being more thoroughly investigated and their clinical effects more keenly studied and appreciated. The symposium on “The Pancreas and Pancreatic Diseases,” at the last Congress of American Physicians and Surgeons, epitomized the general knowledge of the subject, and if little addition was made to its extent the more glaring defects were strikingly emphasized. It was demonstrated that various abnormal conditions affecting the ducts and the parenchyma of the pancreas were usually productive of rather in definite signs and symptoms, and which were, moreover, frequently difficult of differentiation from those resulting from pathologic processes involving neighboring structures. Certain lesions (e.g., acute pancreatitis, chronic obstruction of the common bile and pancreatic ducts) usually give positive indications for the institution of procedures that will almost certainly lead ultimately to the proper diagnosis and treatment, but there are many conditions that do not give these indications, and in which the proper treatment is of but little if any less

consequence, so that any feasible and accurate diagnostic aid in the determination of the presence and nature of pancreatic lesions would be of the greatest value. Particularly is this true since it has been conclusively demonstrated that some operations, although performed for the relief of other conditions, have proven to be so beneficial to certain not uncommon pancreatic lesions.

The recent reports of Mayo Robson and Cammidge record the discovery of an apparently accurate and fairly simple clinical test capable not only of indicating the existence of a pancreatic lesion, but also, in a way, of determining its nature. Mr. Robson's reputation carries conviction that the method is worthy of general adoption. It has been fully described in this Journal.

Cammidge's experiments, as reported, seem to exclude the possibility of error or of faulty interpretation of the results. Both are to be congratulated on so important a contribution to clinical methods, especially Mr. Cammidge for the able deduction of the chemical reaction. Whether this may prove to be as efficient in the hands of other laboratory workers, remains to be demonstrated. There is no apparent reason why it should not, and with the large amount of material to be found in hospitals, there should be a widespread investigation, and, let us hope, confirmation of such valuable and important observations. —Editorial, *Jour. Am. Med. Ass'n*, April 30, 1904.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Treatment of Bronchopneumonia in Children.

Northrup (*Medical News*, April 30, 1904) gives the following summary how to cure a baby with bronchopneumonia :

1. Castor oil to clear the field of operation. It is the first aid to the injured.
2. Fresh air, cool and flowing. It reddens the blood, stimulates the heart, improves digestion, quiets restlessness, aids against toxemia. Regulate the temperature of air of the room inversely to that of the child. The patient's feet must always be warm, and the head cool.
3. Water, plenty, inside and outside. Temperature of the water as indicated by child's temperature.

4. Quiet and rest. Tranquilizing influences about patient. Undisturbed sleep.

5. Correct feedings to avoid fermentation and gas in abdomen. If there is need, high hot salines.

6. As to antipyresis. Water—no coaltar products.

7. Heart stimulants. Fresh air, hot foot-baths. Relieving tympanites and crowding. Hot foot-baths and hot salines can be given in a cold room. Both can be given under the bedclothes.

Drugs.—Whisky and strychnin. These are the first drugs mentioned in this paper, unless that household remedy, castor oil, be included. Promote general comfort in every rational way.

How to Kill a Baby With Pneumonia.—Crib in far corner of room with canopy over it. Steam kettle; gas stove (leaky tubing). Room at 80°. Many gasjets burning. Friends in the room, also the pet dog. Chest tightly enveloped in waistcoat poultice. If child's temperature is 105° make it thick, hot, and tight. Blanket the windows, shut the doors. If these do not do it, give coaltar antipyretics and wait.

A Curious Effect of Antipyrin.

We are all aware that antipyrin sometimes gives rise to certain cutaneous manifestations, but it must be seldom that it causes the peculiar condition first noticed by Fournier and called by him *la verge noire*. It was five years ago that Fournier called attention to the black spots which he designated by that name. A was recently reported to the Hospital Medico-Chirurgical Society, of Nantes, by Dr. H. Malherbe (*Gazette Med. de Nantes*, June 18, 1904,) and it appears to be the second one on record of such lesions confined to the penis. According to Malherbe, the occurrence of black spots as a result of the ingestion of antipyrin is confined to the male sex, and the spots seem to have a special predilection for the penis. The spots, which are variable in number and size, are sometimes seated on a diffuse area of redness, with edema and swelling, and their appearance may be preceded by itching. Fournier's observations go to show that the black spots are sometimes accompanied by deep red spots on other parts of the body.

In Malherbe's case, that of a syphilitic, aged 30 years, always of good general health, the penis was the only part affected, a black spot occupying the entire upper surface of the glans. Its appearance fol-

lowed in about six hours upon the ingestion of 22 grains of antipyrin for an attack of migraine, an affection to which the man had been subject for fifteen years and for which he had often taken from 15 to 30 grains of the drug without any unusual consequence. In this case there was absolutely no other lesion. The discussion brought out from Malherbe the statements that, in his opinion, the black color was probably due to congestion so intense as to lead to ecchymosis; that if there was no edema the subject of such spots might go on taking antipyrin without aggravating the affection; and that some peculiarity of the person might be in part the cause of the skin trouble.

Such an intense congestion as Malherbe spoke of seems, however, hardly compatible with the fact, as stated by him, that the tissues preserved their suppleness and all their other natural characteristics, and we should rather be inclined, as he seems to have been at first, to regard the lesion as analogous to the 'fixed erythematopigmentary appearances described by Brocq. These black spots, it seems, disappear spontaneously, but very slowly. —*N. Y. Med. Jour.*

Exodin, a New Cathartic.

Stauder (*Therapeutic Gegenwart*, June, 1904) desires to call attention to a cathartic has very important advantages over the many old and new purgative remedies hitherto known. It is exodin, diacetyl-rufigallic acid tetramethyl-ether, a greenish-yellow substance melting at 856 to 374°F. As shown by Prof. Ebstein's report on this remedy, preliminary experimentation proved that rabbits bear 7 1-2-grain doses very well and that this amount in human beings exerts a mild purgative action.

As suggested by Ebstein, Stauder gave to adults two or three tablets of 7 1-2 grains and to children one tablet. As it is tasteless and odorless, patients take the remedy without difficulty. The drug never causes any unpleasant symptoms whatever, no nausea, eructation or gastric oppression; even patients suffering from ulcer of the stomach can take it at all times without the least ill effect.

Its tastelessness gives exodin an important advantage over castor oil and cascara sagrada. Its action is slow; and here his experience differs from that of Ebstein, for he found that it takes on an average of eighteen to twenty-four hours only occurred in mild cases of chronic constipation or when repeated doses had been given. This slowness

of action proves that the drug, in contradistinction to the rapidly-acting purgatives, has no injurious or irritant effect on the intestinal mucosa. Exodin does not occasion a sudden and temporary downward peristalsis of the intestinal coils; it has a slower and more protracted stimulant action. This explains the facts that gastric pains and colic are absent; that evacuations with rare exceptions are soft and formed, and diarrhoea is hardly ever seen; and that its action, which lasts several days and only gradually subsides, is not followed by constipation.

The author here appends a number of illustrative cases, which clearly evidence the splendid action of the remedy.

The most suited cases for its exhibition are acute and chronic obstipation in otherwise healthy persons, the so-called atonic forms, and also the cases in which regular defecation must be stimulated in consequence of hemorrhoids, intestinal stenosis, twists in the colon, etc. Ebstein warmly recommends its use in pregnancy even in the early months where all other purgatives may be useless. It does not lose its efficacy when used repeatedly at intervals. Spastic obstipation, intestinal paralysis and coprosthesis with large fecal accumulations are, of course, little suited for the remedy. Here warm oil enemata are preferable; and after the scybalæ are softened exodin can be warmly recommended to facilitate their evacuation in the place of the customary castor oil or calomel.

By examining the feces before and after employing exodin, Stauder satisfied himself that increased production of mucus or other symptoms of irritation of the intestinal mucosa never occur.

For these reasons he agrees fully with Ebstein's conclusions as to the value and efficacy of exodin. The certainty and constancy of its action and the entire absence of unpleasant by-effects assure for it a very prominent position among the purgatives. Of course, it goes without saying that a careful physical examination of the abdomen to determine the nature and cause of the fecal retention is a necessary preliminary to the institution of treatment in every case.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of April 21, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. HOWARD CARTER presented specimens of

Horse-Shoe Kidney.

This specimen I have already exhibited before the St. Louis Medical Society. These are rarely seen and the two specimens are perfect in type. They are evidently complete functioning kidneys. The ureters are about normal and the kidneys have no special clinical significance. They were in about the average position of the kidney.

Suppurative Appendicitis With Foreign Body.

The appendix was dilated until it was about as large as my two fingers. The lumen of the appendix was small and contained a foreign body as large as a medium-sized olive and had suppurated through. It is possible that it may have been a small body originally and its size was due to concretions. In all my autopsies I have only encountered two cases of foreign body in the appendix, and so far as I have been able to learn from my conversations with other physicians, but two other cases have been noted by these gentlemen.

Complete Calcification of the Coronary Artery.

The cause of death in this case I can not state. He was found dead and probably suffered from angina pectoris. There was an atheromatous condition of the arch of the aorta.

Complete Calcification of the Aorta to Bifurcation of the Iliac.

The whole arterial system was in a state of degeneration. The smaller arteries were also involved and both kidneys had suffered from

the process. One was little more than a mass of cysts and the other was cirrhotic, probably the result of faulty circulation. This specimen was from a woman and she ought to have been dead ten years sooner. She was probably 65 years old, and died from some other trouble—the result of shock, having been run into by a cart.

Aneurism.

This aneurism was situated both above and below the diaphragm. The patient entered the hospital with what appeared to be gastritis and died within twenty-four hours.

Exceptional Dilatation of Ureter.

The patient died from hemorrhage due to cancer of the uterus. When the body was opened I saw what appeared to be a loop of small intestine going directly into the abdominal cavity but found it was an enormously dilated ureter. It seemed to have been occluded, probably by a retroflexed uterus. The vessel was probably one and a half fingers in diameter. One of the kidneys was atrophied.

Dr. FRANCIS REDER presented a patient with

Paralysis of the Deltoid Muscle.

The history of the case in brief is this: The man was taken sick in October with typhoid fever and during his convalescence in December fell from the porch and struck his shoulder against a shed. There appears to have been a dislocation which was reduced. There is a free motion of the arm forward and backward but when he attempts to elevate his arm he is unable to do so. It was at first impossible to carry the arm backward but he can now do so after some practice; there is a flatness of the shoulder and an abnormal prominence of the acromion process. The head of the humerus is in the glenoid cavity. During the last two months the condition of the arm has somewhat improved, but the patient is a laboring man and the arm in its present condition is of very little use to him. The condition seems to be one of paralysis of the deltoid muscle possibly due to an injury of the circumflex nerve which supplies the posterior surface of the deltoid and gives that nerve its mobility.

DISCUSSION.

Dr. LIPPE said he believed that Dr. Reder's diagnosis was correct and that it was a paralytic condition, yet the presence of Dugass'

symptom—the inability to place the hand on the opposite shoulder with elbow at the same time touching the chest, puzzled him; he did not feel competent to say whether that was a symptom of a paralytic condition. Possibly Dr. Reder could tell them whether that condition was ever found in an affection of the circumflex nerve, and he asked the doctor if he had made any electrical test.

Dr. DRECHSLER said that it seemed the head was in the glenoid cavity and the doctor had demonstrated that by raising the arm it produced prominence of the acromion process so he believed that there was some disturbance of the nerve.

Dr. REDER, in closing, said he did not see the man at the time of the accident; he saw him two or three months later. From numerous observations of this condition the only inference he could draw was that, the from the debilitated condition of the man from the typhoid fever, injury, small as it was, affected the circumflex nerve and the brachial plexus. The anatomical conditions were normal; the mobility of the joint was normal; the only lack of motion was in the elevation of the arm, showing that the function of the deltoid was to some extent impaired. As the man had always been in good health and there was no constitutional trouble, the only inference to be drawn was that his condition was due to the injury. There had been some improvement during the last six months and he believed that in time the arm would be useful, but it never would be a strong arm.

Dr. FRANCIS REDER also presented specimens of

Appendix.

There is nothing abnormal about this appendix; it is a perfectly healthy. It is the history that is abnormal and that led to its removal. The patient was a girl, 13 years old, who had had numerous attacks of pain in the right iliac fossa; the last attack of pain was of unusual severity. When he saw her later both temperature and pulse were normal; the only abnormality was pain due to pressure over McBurney's point. He saw her every five or six hours for five days and there was no change; on the morning of the sixth day there was no change but in the afternoon the pulse ran up to a 130, temperature to 99°. The pain had been constant and was only relieved a little by ice applications; heat was not tolerated. Inasmuch as this little patient had had a number of attacks, he advised operation and it was accepted. In inserting the finger he was not able to locate the appen-

dix. Enlarging the incision he found the ileum and cecum but could not see the appendix, but found a hardened place and thought it was the base of the appendix, then following it up and making traction he pulled out the appendix; it was filled with fluid and was about as large as one's little finger. It was amputated, the wound closed and in a week the girl left the hospital. This appendix had slipped into the mesocolon. We know the mesocolon invests the anterior two-thirds of the larger bowel and diverges posteriorly leaving a space filled with fat, and in this little space the appendix had hidden itself; when it was withdrawn there was a suction sound.

In connection with this he cited another case, which shows how much weight should be given to pain in the abdomen. A young man, aged 23 years, had pain in the hypochondriac region, but there was no acceleration of the pulse and no rise in temperature, and he remained at work. He treated him for tape-worm, and it did no good, he was then taken to the hospital and given a colon flush, and it did no good. At first he thought he was a hypochondriac. He brought the case up in the German Medical Society here and their opinion was that he was suffering from "hunger pain." He was made to eat about every fifteen minutes during the day; for a time he seemed somewhat relieved, but the pain came back again and he insisted there was something wrong in his belly and he wanted me to cut it open. After arguing with him for three weeks the patient said if he would not cut him open he would go to someone who would. So, in view of the continuous pain, he decided to operate. He made an incision and found everything normal; the gall-bladder was normal; the ureters were normal. He went down in the region of the appendix and withdrew one unusually long, and on account of its length he amputated it. The patient left the hospital in about two weeks and has not had pain since. That was about two years ago.

Carcinoma of the Cervix of the Uterus.

Two years ago this woman placed herself in the hands of a surgeon here in St. Louis, an able man, who knew the condition of the patient, who was an intelligent woman willing to do anything the doctor suggested, and he curetted her. She was losing blood frequently and a large quantity at a time; the curetting checked the hemorrhage for about five months; she was then losing only a little blood at a time but often. She consulted me and he found this cancerous condition.

The speaker suggested removal of the uterus and she accepted. This shows how useless it is to curette for a cancerous condition. We should bear in mind that an early operation does more good than a later and more extensive one.

Specimen of Uterus Bicornis.

The woman was about 25 years of age and suffered from a large pelvic abscess. He saw her about three years ago and she then had this pelvic abscess; the removal of the uterus was advised and refused, but some two months ago she came to me and said that she could not live any longer in such a condition and asked me to give her relief. He found the cul-de-sac of Douglas was full of exudate. Not caring to make a vaginal puncture the tube was removed, and getting his finger into the cul-de-sac discovered a similar condition of what he thought was an enlarged tube on the right side, which was also removed. When he got down to it and found a hardened condition, he began to think of a cyst, but thought awhile and concluded it was a uterus bicornis. The woman was septic and died three weeks later of uremic coma. This woman had given birth to three children and during her pregnancies she menstruated regularly. We know that the uterus is formed by fusion and junction of the ducts of Muller. If we have no junction of the ducts we have a uterus didelphys. Furthermore, one of Muller's ducts may develop properly and the other may not, giving a uterus unicornis. When he curetted this uterus he got into the cavity very well with the curette but when he got ready to wash it out he found it impossible to do so.

Diseased Kidneys.

He showed the kidney in connection with this uterus. The patient had two uremic convulsions. He brought her out of the first one by the use of copious saline solution but in the second she died.

DISCUSSION.

Dr. JACOBSON considered the specimens of fused kidney very beautiful. Frequently these kidneys are found situated lower than the normal position of the kidney in front of the sacrolumbar vertebræ and they then give rise to trouble, especially in women during confinement. There may ensue rupture of the kidney as result of pressure endangering the life of the patient. This type of kidney is supposed to be due to embryonic changes. In the specimens presented the

upper extremities were united while in the majority of such cases the fusion is at the lower extremity.

Dr. ORR said he did not wish to attempt a discussion of the specimens but he wished to ask Dr. Reder how he accounted for the relief of the pain in the abdomen when that long appendix was removed. Had he found any other abnormal condition, such as an enlarged stomach, or did he believe that if he had removed a part of the omentum, or if he had simply retired after opening the abdomen, that the patient would in any case have been relieved from the pain?

Dr. BUCHANAN said that in regard to the long appendix which Dr. Reder had told about; he had had the pleasure a few days before of removing, post-mortem, an appendix which extended up and was attached by adhesions to the liver and measured 17 cm. in length. The man died of pneumonia, but his previous history of abdominal pain was similar to Dr. Reder's case. The base of the appendix was found in normal position.

Dr. SHARPE said that the Society was really embarrassed by a surplus of good things. He desired to take exception to Dr. Reder's statement, as understood by him, that the appendix was found in the mesocolon. It appeared to him, from the description, that the appendix was found in a pouch or cul de sac posterior to the colon or mesocolon, but not in the mesocolon.

Dr. DRECHSLER thought that the Coroner's Office no doubt afforded many interesting specimens. He had noticed that the cases seem to run in droves. He had seen in one week as many as five cases of aneurism in which the subjects had died on the street. He was sometimes astonished at the size of the aneurisms. It was surprising to what an extent they would grow and the man still be able to attend to his business.

The kidney specimen was a very pretty one, and the calcification of the coronary artery was also interesting, though they are frequently found in post-mortems.

Dr. REDER, in closing, said that Dr. Orr had asked a question that he could almost answer positively. He believed that though the appendix was not diseased and only about one-quarter of an inch was in a congested state, that its removal had given the relief the man experienced. He could understand how it caused the disturbance. It was lying upward and he thought when the intestines were filled that it pressed upon some of the ganglia. He did certainly believe that the appendix was at fault. The patient was very sensible man otherwise.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

Germes in Drinking Water.

The extensive examination of drinking water made by Vaughan (*Jour. Am. Med. Ass'n*, April 9, 1904) indicate that the Michigan method remains quite reliable. Between October 1, 1888 and December 31, 1903, Vaughan examined 709 samples of drinking water sent to the University of Michigan, and presents the following conclusions:

1. 30 per cent contained toxicogenic germs.
2. 1.4 per cent contained no bacteria capable of growth.
3. Waters that contained no germs capable of growth at 38°C. or higher can not cause disease.
4. Waters that contains no toxicogenic germs are not condemned.
5. Waters that contains as their only toxicogenic organism a typical colon bacillus are not condemned.
6. Waters which contain as their only toxicogenic organism a typical proteus bacillus—repeated plating of cultures necessary to so determine, are not condemned.
7. Waters that contain any member of the venomous group or organisms of doubtful character are condemned.
8. A germ responding to the Widal test has not been found by Vaughan in drinking water.
9. Sixteen years' experience with this method of water analysis convinces him that it is trustworthy.

The Michigan method of water analysis is as follows: Samples are collected in sterilized receptacles and examined as soon as possible. Plates are made with 0.05 cc., 0.1 cc., 0.5 cc. and 1 cc. of the water. Formerly gelatin plates were prepared and grown at room temperature. During the past two years, however, only agar plates were used, two sets being made, one of these grown at room temperature and the other at 38°C. The colonies developed on these plates are counted at the expiration of 24, 48 and 72 hours.

When the plates are made, beef-tea tubes are inoculated with like amounts of the water, and these tubes are kept in the incubator for 24 hours at from 38 to 40°C.

Since harmful germs do not develop or rather multiply at all, or at least very feebly below 38°C., the temperature is never permitted to fall below 38°C.

When germs are found in any of the tubes after 24 hours in the incubator, from 1 to 2 cc. of the beef cultures are injected intra-abdominally into white rats or guinea pigs. Generally two animals are thus inoculated from each tube. If none of these animals die from the effects of these injections, the water is regarded as safe. If one or more of the animals die, agar plates are made immediately after death from the heart's blood. The thoracic cavity is opened, the heart exposed *in situ*, its surface seared with a hot iron and the cavity punctured with a sterile glass pipette, into which a few drops of the blood is drawn; with the blood thus obtained the plates are made. The animal is thus used for separating the toxicogenic organisms from the non toxicogenic.

These agar plates are developed at 38°C. and the cultures studied most carefully. Five cultures are made from each colony—that is, if all the colonies appear to be the same, cultures are made from at least five colonies, while, if it is evident that there are two or more kinds of colonies present, five cultures are made from each kind.

Various kinds of culture media—such as litmus agar, for the purpose of bringing out more differentiation among the colonies, have been used, but at present agar plates are employed.

The cultures obtained from these plates are carried through tests on various media. Vaughan has tabulated excellent work.

The Inception of the Cardiac Rhythm.

Mackenzie (*British Med. Jour.*, March 5, 1904) seeks to explain that most puzzling of all forms of cardiac irregularity, where the heart is never regular in its action, where seldom or never, two beats of the same character follow one another. As the result of a large number of cases where a jugular pulse was present he has been able to establish the fact that that the cause of the irregularity is due to the rhythm of the heart proceeding from the ventricular, and not, as normally, from the great veins as they debouch into the auricles.

He is also convinced that in all other cases of continued irregu-

larity where there is no jugular pulse to explain matters (as in old people and others who suffer from attacks of palpation, with irregular action of the heart) the same cause is at work.

Many valuable tracings are presented and after careful consideration of the subject, the following conclusions are recorded :

1. The ventricle can take on the inception of irregularity, and when it does so the heart beats irregularly. It may be assumed that whenever there is a continuous irregularity as distinct from occasional or rhythmic irregularity, the ventricle is giving the rhythm. The writer is inclined to think that in paroxysmal tachycardia the ventricle also takes on the inception of the rhythm.

2. The cause of the continuous irregularity is to be sought for in the exalted irritability of the heart muscle and not in the stimulation of the heart through the nervous system.

3. The dilatation and ineffective action of the heart is secondary to the irregularity.

4. When the irregularity begins there is uneasiness in the chest, dyspnea on exertion, a sense of weakness, which increases as the attack continues. Coincident with these symptoms are certain definite changes in the circulation. The radial pulse becomes larger and very compressible, the veins in the neck become greatly engorged, the face becomes dusky and the lips blue. The cardiac area of dulness extends beyond the right of the sternum, and the superficial structures of the chest wall become tender to pressure in the peculiar manner he has found so frequently associated with dilatation of the heart.

5. Treatment should be directed to lessen the irritability of the heart muscle and to protect the heart from being exposed to causes that excite it to increased activity.

The best remedy is prolonged rest in bed.

Thoracic Aneurisms.

Burk (*Am. Med.*, February 27, 1904) calls attention to the fact that an enormously enlarged or so-called bovine heart may crowd the aorta to the right until the displaced vessel simulates an aneurysm. Aneurisms occur more frequently in men than in women, because of the greater arterial strain to which the former are commonly subjected, and because of their greater proneness to alcoholic and venereal incontinence and their resulting vascular degeneration.

The thoracic aorta is most frequently affected in the ascending

portion of the arch, then the transverse, then the ascending and transverse conjointly.

Aneurismal tumors of the sinuses of Valsalva may exist without any manifestations. A growth of this kind in the ascending portion of the arch commonly extends to the right of the sternum above the level of the fourth rib, or, less often, to the surface directly forward. Occasionally it appears at the left of the sternum. Aneurisms of the transverse arch press backward toward the spine or forward under the sternum, and those of the ascending and transverse portion pass to the right and upward. Those affecting the descending portion extends to the left and backward, while a tumor situated at the junction of the transverse and descending portions grows from behind the sternum to the left and upward.

An aneurism of the ascending arch generally points in the vicinity of the intercostal space to the right of the sternum.

If from the transverse arch it comes through the upper parts of the sternum—and if from the descending portion it appears to the left of the sternum above the third rib, or to the left of the spine about on the same level behind. Aneurisms of the descending thoracic aorta pulsate to the left of the spine a little lower posteriorly, when the tumors do not stand out on the surface, there may be simply varying degrees down to entire absence of pulsation in these several localities.

When venous congestion and swelling of the right arm are present, the tumor is probably in the ascending portion of the arch and is press-upon the subclavian vein. If the pressure includes the vena cava superior the patient complains of cephalic engorgement, and the upper extremities are also engorged. When the tumor involves the inferior vena cava the lower extremities become swollen.

Paralysis of the right vocal cord may be due to pressure in the ascending arch upon the recurrent laryngeal nerve. Abnormal dilatation or contraction of right pupil may be due to varying degrees of pressure in the ascending arch upon the sympathetic. Deep seated pressure is more frequently due to changes in the transverse than in the ascending arch. Paralysis of left vocal cord may be due to pressure upon left recurrent laryngeal nerve by tumor in transverse arch.

Large aneurismal tumors of the transverse or descending arch may cause kyphosis in upper dorsal region, involving the second, third and fourth vertebrae, and with no pulsation.

The writer has derived very little benefit from the use of the x-ray as a diagnostic measure, except in cases where the dilatation was quite large—in these cases the outlines detected are quite valuable as a means of verification. He finds that, aneurisms that, are too small to be detected by the ordinary methods are too small to be seen in the hazy shadows thrown upon the screen by the x ray.

A continuous arterial flow *i.e.* with absence of the arterial wave—may be due to a large over-distended sac below the left subclavian artery in the descending thoracic aorta or an extreme dilatation which comprehends the greater part of the arch.

Sudden, violent pain, which may extend down the left arm is a prominent symptom of aneurism.

The distress due to erosion may be a constant, dull aching, or may be intermittent, of a severe tearing character.

Aneurisms are encountered more frequently in the upper sternal region than are malignant tumors. The latter are generally associated generally associated with cachexia—especially if the tumor has been present for some time.

Aneurisms cause dilatation of the heart less frequently than do malignant tumors.

The course of treatment remains problematic. Rest treatment produces the best results when the aneurism is sacculated.

Potassium iodid lessens the pain and discomfort—nothing more.

Pernicious Anemia.

Dr. Stockton presented a very interesting and well discussed paper on this subject at the Atlantic City Meeting, (*Jour. Am. Med. Ass'n*, July 16, 1904).

The 24 cases reported are presented in detail. The patients, usually complained of dyspnea, weakness and digestive disturbance, sometimes relating to the stomach, at others to the intestines. All of them presented the picture of marked pallor, associated with a more or less marked lesion—colored tint of the skin, differing from jaundice, and yet, in some instances strongly suggesting it. In most the loss of weight was not great. In almost all of the cases the tongue was strikingly anemic, usually showing a loss of epithelium, and therefore, not coated, or but slightly so. Anorexia present in some, but in most the appetite was fairly good, while in a few it was increased. In all the gastric digestion was greatly depressed, and in the majority there was

complete achylia gastrica, no appreciable digestion taking place in the stomach. In those cases of pernicious anemia in which the secretion of HCl has disappeared, the writer has not seen it return, even when gastric mobility has become apparently normal.

The cases in which complete achylia gastrica was present, did not differ from the ordinary type of achylia gastrica—that is, in so far as could be determined by the stomach analyst.

Dr. Stockton is convinced that achylia gastrica is not an etiologic factor in the development of pernicious anemia. He bases his opinion upon a careful study of these cases and because :

1. When in given case the blood shows marked improvement for several weeks together, there usually appears evidences of improvement in the general nutrition, but, so far as the writer has observed, not in the gastric digestion.

2. In a large number of cases of achylia gastrica studied by the writer, not a single one of these cases have presented blood changes suggestive of pernicious anemia. Certainly cases have been seen in which a severe diarrhea had produced a secondary anemia.

3. In few cases where the anemia was marked, there was not found a complete achylia gastrica, but merely hypochlorhydria.

Dr. Stockton has not found any constant change in the liver, spleen, or lymph glands of these cases. Sometimes, hemic murmurs occurred. Symptoms of spinal cord disease were found in the majority of cases, thus corroborating Billings' findings.

Age of patients ranged from 32 to 70; 20 males, and 4 females; 13 had outdoor occupation; all suffered from faintness; 6 had bruit de diable, in 18 it was absent; 10 constipated, 8 diarrhea, and in 6 the bowels were irregular; longest duration of illness was 5 years, shortest 6 months; 12 are now dead; 4 showed the presence of combined chlorids; 3 showed free HCl; 6 showed lactic acid present.

The acid salts were very low. Starch digestion low in all save 2 cases.

In the discussion that followed, Dr. Cabot stated that he had seen 150 cases of pernicious anemia in 125 of which HCl was absent, and yet digestion went on perfectly well. In cases with poor digestion the trouble seems due rather to motor insufficiency of the stomach, and not the absence of HCl. Dr. Cabot commented upon the lack of cardiac symptoms in this disease.

Dr. Osler remarked that in some cases the gastric atony may bear a causal relation to the pernicious anemia.

Dr. Stockton, in closing, stated that he believed that we should draw a distinct line between ordinary achylia gastrica with atrophy of the gastric mucosa and those cases of gastric atrophy which appear in the course of pernicious anemia.

It is to be regretted that a complete report of analysis of the stomach contents did not accompany the reported cases.

Antitetanic Serum.

Many prominent surgeons have great faith in this serum as a prophylactic measure but do not place much dependence in it as a remedy. It seems certain that obtain the best results as a prophylactic it should be given early, but it is far worse essential that the primary injury receive the prompt and proper attention.

Rogers (*Med. News*, July 2, 1904) records a case of developed tetanus cured by intraneural injections of antitetanic serum. The patient was a boy, aged 11 years, who had sustained an injury of the sole of left foot from a rusty nail. One week later tetanus developed. Patient was immediately put to bed and 20 cc. of antitoxin administered subcutaneously. During the afternoon the dose was repeated. The symptoms became progressively worse and on the morning of the following day the patient was given a general anesthetic and the anterior crural nerve was exposed just below Poupart's ligament, and about one-half dram of antitoxin injected into its substance. The great sciatic nerve opposite the gluteal fold was also exposed and a similar injection made. A rather fine needle was employed and while the nerve was held on the index finger, the needle was several times withdrawn and reinserted into the substance of the nerve to insure some wounding of its fibers, since experiments seem to have demonstrated this necessary to insure entrance for the antitoxin. The needle was then introduced into the spinal canal between the second and third lumbar vertebræ and the needle manipulated until its motion induced a twitching of the leg, thereby indicating that the needle had produced some abrasion in the cauda equina. This subdural injection consisted of one dram of and a half of antitoxin. Site of primary injury was thoroughly incised, cleansed, swabbed with tincture of iodine and dressed with iodoform gauze. Patient's condition did not improve. On the following day, the subdural injection was repeated and within

a few hours the condition of the patient changed from one of impending death to one of comparative well-being. Dr. Roger is convinced of the efficacy in tetanus if the antitoxin is injected into the substance of the motor nerves of the part of the body primarily infected, and into the spinal cord. He believes that the tetanus toxin and antitoxin can only reach nerve-cells through nervous tissue, and normally, this course begins with the terminal filaments of the axis cylinders. In the patient reported, Dr. Rogers had demonstrated the presence of tetanus bacilli by cultures.

SURGERY.

In Charge of M. G. GORIN, M.D.

Gastroenterostomy for Simple Ulcers of the Stomach and Duodenum.

Moynihan (*Annals of Surgery*) presents a report of 100 cases of gastroenterostomy for the relief of simple ulcers of the stomach. In 92 cases the results were entirely satisfactory, and in the entire series there were but 2 deaths. In 85 of the cases operation was performed for the relief of chronic ulcer with intractable dyspepsia, and in the remaining 15 for profuse recurrent hemorrhages. In each class of cases there was 1 death. In 58 cases but a single ulcer was noted. In 20 cases two ulcers; 4 cases three ulcers, and in 7 cases there were multiple ulcers. Duodenal ulcer alone was found in 9 cases; duodenal co-existent with gastric in 13 cases. Hematemesis was a symptom in 36 cases, melena in 3, and in all cases pain was the most constant symptom. Distention of the stomach was the causative factor in the production of most of the recurrent hemorrhages.

It is the belief of the operator that gastroenterostomy will (by emptying the stomach) relieve most cases of hemorrhage without excision of the ulcer. In the 6 cases remaining operation did no relieve, and in every one of these pronounced hyperchlorhydria existed. Three improved under subsequent medical treatment and are now well. The 3 remaining are still under treatment. To avoid regurgitant vomiting the author strongly urges that the lower end of the opening be made at the greater curvature. The preliminary measures consist in requiring that the patient's teeth be brushed freely every two hours and an antiseptic mouth wash used for several days prior to

operation, during which period every particle of food given is liquid and sterile. Five grains of calomel are given on the third day before operation and on the morning following a saline aperient, followed by an enema in the evening, when the stomach is also washed out. This last procedure is repeated about an hour prior to operation.

Typhoid Perforation.

Fulton (*Am. Med.*) reports an interesting case of typhoid perforation in a boy aged 14 years, who had been treated for grip eight days previously and after two days attention had apparently recovered and passed from the notice of his physician until the ninth day following when the patient was seized with violent abdominal pain which was thought to be due to appendicitis. He was immediately operated upon and the appendix found normal, but on inspecting the small bowel a perforation one inch in length and three-fourths in diameter was found in the last few inches of the ileum. On account of the extremely weak condition of the patient resection was deemed inadvisable, and excision was equally out of the question on account of the size of the ulcer. It was determined to surround the ulcer with peritoneum and attach to the abdominal wall establishing a fistula. This was accordingly done and the abdomen well drained with gauze which was permitted to remain until the fourth day. The temperature ran a mild typhoid course for ten days subsequent to operation, never going higher than 103° . The fistula closed in three weeks and the patient was discharged from the hospital well in seven weeks.

Wounds From Different Bullets.

Poey (*Jour. Assn. Mil. Surg. U. S.*) describes and compares the results of wounds made with lead and with jacketed bullets, during the Spanish-American war. The author details a number of interesting illustrative cases taken from his personal experience during the Cuban and Philippine campaigns. The ordinary 43-caliber bullet always lacerates even when striking soft tissues; the entrance wound is larger than the bullet's caliber, and the exit three or more times larger according to the anatomical structures encountered in its transit. When a bone is struck excision or amputation is almost invariably necessary. Hemorrhage is great and troublesome. The effects of this bullet, while horribly mutilating are not so bad as produced by the Spanish brass-jacketed bullet, which is of 43 caliber and covered with

brass, the so-called "explosive bullet." The wound of exit is worse than that of the lead bullet under its worst conditions. The breaking of the brass occurs after passing through a hard substance. The Mauser bullet is the most humane though the most useless from a military point of view, as it is necessary to wound a man in a vital spot in order to stop him from fighting. The wound is small and clean cut and there is a mushrooming of the bullet as in the lead and brass-jacketed missiles. From numerous observations the author concludes that the less surgical interference allowed in Mauser wounds the better, as the tendency is to recover, even in penetrating abdominal wounds.

Intradural Tumor.

Cushing (*Annals of Surgery*) reports an exceedingly interesting case of intradural tumor of the cervical meninges with early restoration of the functions of cord after removal. Since Gowers and Horsley's first demonstration of the feasibility of operation in these cases there have been very few operations of this nature reported until within the last few years. The treatment of the case reported is especially praiseworthy both from a diagnostic and operative point of view. To the early diagnosis is doubtless due the successful result of operative procedure, as an indefinitely prolonged course of internal treatment would have resulted in permanent destruction of the cord functions from increasing pressure or the growing tumor. The patient, a Russian aged 30 years, with negative family and personal history entered Dr. Osler's service October 14, 1903. He enjoyed good health until eighteen months previous when he began to complain of severe pains in the flexor surface of left forearm and extending into the left shoulder and upper part of the back. Movements of the neck increased his discomfort so much that he had to be helped out of bed every morning, but after moving about a while he managed to get to his work each day. Sneezing, laughing or coughing would cause severe pains to shoot down from shoulder to the arm. After several months, weakness of the left leg and dragging of the foot were noticed, followed by wasting of the muscles of the left hand. Thermal changes were also less easily recognized on the right than on the left side. Two months prior to entrance he was in bed ten days with high fever, supposedly typhoid. On special examination it was found that the pupils both reacted to light and distance, but the left was slightly smaller than the

right; no difference of width in the palpebral clefts; no paralysis of cranial nerves.

There was absolute loss of thermic and pain perception over right side of body from the second intercostal space downward. The symptoms indicated a lesion in the vicinity of the first thoracic segment. X-ray examination revealed no abnormality of the vertebræ. Tuberculin diagnostic test showed no reaction. On November 19th, the patient was operated upon by Dr. Cushing, who made an incision extending from the fourth cervical to the third dorsal. Laminectomy of the fifth, sixth and seventh cervical and first dorsal, and incision of the membranes revealed a purplish oval shaped tumor about 4 centimeters in length lying beneath the pia and covered in its upper portion by a posterior nerve root, which had to be resected before the tumor could be delivered. The cord was found to be compressed to the right, flattened and much more vascular than usual. The wound was closed in layers without drainage, healing occurring by first intention. results were all that could be desired, and improvement began immediately after operation and in three months time the patient returned to work, the palsy having completely disappeared. Microscopical examination indicated that the growth was fibrosarcoma.

Foreign Bodies Left in Belly After Laparotomy.

Neugebauer has collected reports of 87 cases of the nature, including forceps, sponges and scissors. To guard against this unfortunate accident absolutely he considers an impossibility, and attributes most of the cases to an unexpected hasty termination of operation, due in many instances to imperfect anesthesia, hence the importance of a capable anesthetizer. A watchful first assistant and good illumination of the field are also necessary. In regard to the instruments it is urged that as few as possible should be used and separate receptacles provided for hemostats needles and ligatures.

Acute Dilatation of the Stomach Complicating Abdominal Operation.

Robb (*Cleveland Med. Jour.*) reports the occurrence of this unusual condition while operating upon a woman for the relief of prolapsus uteri. The patient, a woman, aged 30 years, had no previous history of gastric affection, and examination prior to operation revealed nothing abnormal save with the pelvic organs. On opening

the abdomen under ether anesthesia a tumor mass could be seen filling the upper margin of the wound. On introducing the hand the sac at once became tense, extending to the symphysis pubis, so that further manipulations were impossible. Recognizing that the tumor consisted of the stomach a tube was introduced through the esophagus through which the air escaped and the stomach returned to the abdominal cavity and during the remainder of the operation, which consisted in resection of an ovary, removal of the appendix and ventrofixation of the uterus, no further difficulty with the stomach was experienced.

Massage of the Heart as an Aid in Resuscitation.

Keen (*Med. Rev. of Rev.*) believes this measure to be a justifiable procedure when other less radical means of restoring a patient under anesthesia have failed. The moment this should be undertaken is a difficult matter to determine. Generally speaking he would not resort to massage under five minutes after pulsation had ceased, and after ten minutes have elapsed considers it useless. In one case reported the chest wall was resected and the pericardium laid bare. Recovery occurred.

NEUROLOGY.

In Charge of M. A. BLISS, M.D.

Optic Neuritis of Unknown Origin.

Optic neuritis has taken such an important place in the diagnosis of cerebral tumor that the report of cases where the subsequent history seems to exclude tumor are of great interest. In the January *Journal of Mental and Nervous Diseases*, Dr. Pershing, of Denver, discusses the subject and reports 3 cases, in 2 of which aural disease may have been attributed as a causal factor. In the third it was not present and a thorough search failed to reveal the cause of a neuritis which after a time subsided and left little trace of its former existence.

We have recently seen a case in which there was pronounced anemia of the optic discs associated with a well-marked hysterical group of symptoms. The blood pressure was 110. The blood count about 4,000,000 red and 7,500 white; the urine normal, the lungs, liver, heart and other organs not affected. A patient search covering

a period of two months failed to reveal anything objective further than the condition of the eye grounds, which did not change. There was no defect of vision but some limitations of the visual field. The deep reflexes were normal.

On account of severe headache and occasional vomiting a diagnosis of cerebral tumor was at first thought tenable. It is still kept in mind though all the symptoms have disappeared.

Before we may exclude cerebral tumor definitely we shall have to secure autopsies on some of these cases. First, because we know that cerebral tumors may exist without symptoms; secondly, that there are often marked remissions in the symptoms, even intermissions, when we fail to find anything objective except the eye conditions, which may apparently improve to some extent, and later recur.

The Relation of Neuralgic Headaches to Storms.

S. Weir Mitchell (*Ibid.*) calls attention to the fact that few studies have been made of the relation of disease and to weather.

He calls for volunteers among victims of migraine to make observations as to the relationship between their attacks and storm periods and cites the results of Captain Catlin, a patient of Dr. Mitchell, who kept a record for two years, which was put in graphic form by Dr. Allen. The course of the two records correspond with considerable accuracy.

A number of observers could easily settle the discussion by keeping accurate records for a year or two, though other causes beside the weather operate to bring on the attacks must be considered.

A Method for the Relief of Pain in Tumors of the Brain.

William Browning (*Ibid.*) recommends the administration of such depressant as aconite, veratrum or gelsemium in doses sufficient to soften and control the pulse for the relief of pain in brain tumors, and he bases his suggestion on the facts that their use does not influence unfavorably the course of the tumor, nor the general condition of the patient, neither does it prevent the use of opiates should the need of them arise. Where the growth is deep in the substance of the brain and the pain due directly to pressure the most relief may be expected. In the paroxymal augmentation of external pressure with terrific pain seizures we may need in addition to administer opiates, but less will be required. Where pain is the result of direct implication or stretch-

ing external structures, as the meninges, then relief will be only proportionate to the degree in which pressure is a factor.

The plan tends to reduce the liability to brain hemorrhage which may occur in or about the growth.

The work of Harvey Cushing is quoted by the author as bearing out his statements as to augmentation of cerebral blood pressure, which though an effort on the part of Nature to overcome an obstruction, results only in the increase of pain, which may be lessened by full doses of the remedies mentioned.

Epileptic Automatism.

Arthur Sweeney (*St. Paul Med. Jour.*, March, 1904,) writes interestingly on this subject and reports a number of striking cases. He calls attention to the common mistake of considering epilepsy a motor zone disease and the conclusion the essential feature. The motor zone is only one of the parts of the brain that may be involved. We should regard epilepsy as a temporary recurrent unconscious condition, whether there are motor manifestations or not. The disturbance of consciousness is the chief constant factor in epilepsy, whether there are motor manifestations or not. The disturbance of consciousness being the chief constant factor in epilepsy, conditions of the mind in which the person acts automatically, having full or partial control of all his faculties *except* the power of recollection, should be dissatisfied under the head of epilepsy.

Some of the cases quoted by the author had convulsive seizures, some did not, preceding the periods of automatism. In some cases there was a history of night attacks, or very faint day attacks. But the condition of automatism may exist without the motor epileptic attacks.

The faculty which is constantly absent in the disease is that of conscious memory, organic memory flourishing in nearly full perfection.

The Surgical Treatment of Epilepsy.

Roswell Park (*American Medicine*) sums up a well-balanced discussion of this subject as follows :

1. Epilepsy is the last disease to which surgical measures should be indiscriminately applied. In judiciously selected cases, radical operations of various kinds, suited to the individual needs of each case, have given far more satisfactory results than has non-operative or medical treatment.

2. Every case must be studied as a problem by itself. The only general laws applying are those regarding the removal of peripheral or local foci of irritation and the destruction of paths of conduction which convey disturbing impulses. In each case we must decide as to the operative method by which we may best meet these indications.

3. In order to attain the best results patients should be seen early. It would be well to have every epileptic carefully studied by an accomplished surgeon, who should review the case with a view to the possibility of surgical intervention.

4. Operation, when indicated and undertaken, should be regarded as a first measure to be followed, and often preceded, by others looking to a correction of all faults of diet, of elimination, etc. Long continued attention to these matters is the price of eventual success.

5. In those cases characterized by blanching of the face, when the seizures can be warded off or mitigated by the prompt use of amyl nitrite, we may well consider the propriety of an exsection of the cervical sympathetic.

Systematic Examinations, Especially Relative to Nervous Troubles.

F. E. Coulter (*Med. Rev.*, Lincoln, Neb., August, 1903) speaks of a foreign medical man of rare attainments who said "that America contained more clever physicians and surgeons than country in which he had ever traveled." More general medicine can be acquired in New York or Chicago in a given length of time than in many foreign cities in three times the same period. But, he insists, we are all and always in too much of a hurry—more knowledge can be gained from one case carefully studied than from four hurriedly skimmed over.

In making a systematic examination the first requisite is time: the second method, it matters little whether examination is region by region, or by the various systems in turn—only have a method and follow it. No branch of medicine is capable of yielding more accurate or scientific results, if time and method are applied, than diseases of the nervous system.

Dr. Coulter then quotes a case to illustrate the conclusions one might jump at if neither time nor method were used, and what conclusions one would arrive at from the findings, instead of making a diagnosis first and trying to "jam a fit" between it and the findings.

Reflexes.

F. W. Langdon (*Jour. Am. Med. Ass'n*, July 18, 1903) in his address before the section on Nervous and Mental Disease at the New Orleans meeting gives the following which we reproduce as published :

Babinski has enriched our list of clinically available signs by the addition of five within about as many years. Some of these are so little known in America, generally speaking, that brief reference to them here may not be amiss :

1. The "Babinski sign" proper, or the "toe sign," is a reflex extension of the great toe in response to mild plantar irritation. This sign continues to hold its own as a most reliable indicator of organic disease of the "pyramidal" tract. The normal plantar reflex is a flexor movement of all the toes.

2. The achilles tendon reflex is a plantar flexion of the foot at the ankle joint, following a tap on the tendo-achilles. The patient, during this procedure, kneels on a chair or lounge with the feet hanging over its edge. The response (plantar flexion ankle) is weakened or absent in true sciatic neuritis and in tabes. It may be absent early in tabes where the knee-jerks are not yet lost. (Bramwell, *Brain*, 1901, 554)

3. The sign of "combined flexion of the thigh and trunk." To investigate this reflex the patient is placed on his back on a horizontal surface with arms folded across his chest. He is then asked to assume the sitting posture without using his hands. In a hemiplegia of organic origin this effort is accompanied by a raising of the paralyzed limb, which is flexed at the thigh but extended at the knee. In a functional (or so called hysterical) hemiplegia the paralyzed limb remains flaccid and parallel with the sound one.

4. The "platysma sign" of Babinski is obtained by asking the patient to forcibly open the mouth against the resistance of the investigator's hand placed beneath the chin, or by asking him to flex the head on the neck while the operator applies resistance to the forehead. In either case the platysma is absent or lessened on the paralyzed side in organic paralysis, while there is no difference in the two platysma contractions in a functional hemiplegia.

5. The sign of "exaggerated flexion of the forearm" This is due to hypotonicity of the muscles by reason of which a greater de-

gree of flexion is permitted on the paralyzed side in recent organic paralysis. In functional paralysis the hypotonicity is absent and the degree of flexion similar on both sides. Babinski remarks of this sign: "Since the phenomenon may occur to a slight extent in health, it is of value when it is very decided."

The supraorbital reflex, as described by McCarthy, is obtained by tapping, with the finger or a light hammer, over the trunk of the supra-orbital nerve on the forehead. The normal response is a contraction of the lower eyelid. The presence of this response is evidence of integrity of the fifth and seventh cranial nerves. The reflex is present in central lesions involving motion or sensation of the face; absent in peripheral lesions of the fifth and facial nerves. It is important that the observer stand behind the patient in testing for this reflex, so as to avoid the involuntary winking due to visulmotor reaction.

Trunecek's Serum.

Léopold-Lévi reports excellent results from injections of the Trunecek serum in headache, tinnitus aurium, neurasthenia, arteriosclerosis, deafness, etc. In all a marked improvement persisted from five to six months after treatment had ceased. Rectal injections alone seemed of little good. But the serum was of service hypodermically or as a dried powder. A number of cases of nervous diseases follow, in which improvement resulted upon the continued use of injections of the Trunecek serum, with or without the dried powder.

Turpentine in Inflammation of the Appendix.

Mayer (*Munch. Med. Woch.*) having used turpentine oil with much success in a case of empyéma, and believing that it possesses an antiphlogistic and absorbing quality, has employed it in cases of inflammation of the appendix. He uses it in doses of several drops three or four times a day, given either in an emulsion with the yolk of eggs, or in mixtures with brandy, sugar, tincture of cinnamon or other substances. It has certain disadvantages, particularly the production of strangury, or in cases of infiltration of the lung having a tendency to cause pulmonary hemorrhage. Its advantages are that it diminishes the pain, causes the exudate to appear early, and probably stimulates the organism to remove the cause of irritation.

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

International Clinics.

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Otolaryngology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, A.M., M.D., of Philadelphia, Pa., U.S.A., with numerous collaborators, and regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipzig, Brussels and Carlsbad. J. B. Lippincott Company, Philadelphia.

Volume IV.—Fourteenth Series. 1904. Cloth, \$2.00.

This volume is equal in value, richness and high quality to those previously presented to the profession.

Tyson holds that the most important question at the present day in connection with the treatment of gastric ulcer is that of operation for its cure, not to save life after perforation.

Musser's article on pneumonia is good. As a routine practice in these cases he gives strychn sulphate, grain $\frac{1}{30}$ to $\frac{1}{40}$, every four hours. In mentioning the anti-pneumococcic serum he says: "The most that I can say is that it does no harm." He advises that each patient be treated partly with reference to the peculiarities of the infection, partly with reference to his or her personal idiosyncrasies and partly with reference to the complications that may arise.

Julien continues to favor mercurial injections in the treatment of syphilis. He speaks of the calomel treatment in the very earliest stages of syphilis as a suppressor of the disease. The salicylate and the gray oil are both considered of value.

Bishop writes on chronic nephritis and claims that a very large, hot and frequently-applied chest poultice will relieve the dyspnea of Bright's disease.

Satterthwait's article on cardiac palpitation, and Poynton on rheumatic fever, are worthy of study. Poynton believes that the essential feature of the nodule to be a true rheumatic focus—a local infection.

Angeoneurotic edema is presented by Burnett, who practically acknowledges our ignorance as to the etiology and treatment. He has classified the cases into—1, traumatic; 2, neurotic, and 3, menopausal types. He has used bromids and thinks he has thus obtained results.

DaCosta and Keen record a very interesting case of sarcoma of the ileum.

Preble, in dealing with syphilitic aortitis, thinks that dyspnea and palpitation

form a complex of symptoms which should always direct our attention to the first portion of the aorta, and particularly to the coronary vessels.

Coomes states that cough and reflex pain (remote from the site of stricture) in the pneumogastric area are important evidences of esophageal stricture. He holds that many cases of esophageal strictures could be cured by persistent rectal alimentation.

Senn, Wiggins, Brower and Dugan present clinical lectures. The cases presented and comments made are valuable.

Battle and Corner study the acute abdominal conditions from the surgical aspect. Their figures show how necessary it is for the attending physician to realize that it is more safe to operate in appendicitis than to await developments. The article must be read to be appreciated.

Davenport realizes that every physician must know that the pessary is of value in some cases of uterine displacements after the latter has been properly corrected.

Pinard concludes that, excepting the well-defined cases in which placental retention, putrefaction of a fibroid, or a torn or inverted womb may constitute an indication for hysterectomy, clinical examination, bacteriology and pathologic anatomy are at present unable to furnish an indication for hysterectomy in acute puerperal infection.

James' article on hemiplegia, with presentation of two cases is excellent; many points of interest are mentioned.

Porter presents a clinical lecture. McFarland reviews our knowledge relative to immunity, carefully explaining Ehrlich's side-chain theory. All-in-all the book is very good.

The Practical Medicine Series of Year Books.

Comprising 10 volumes of the year's progress in Medicine and Surgery, issued monthly under the general editorial charge of Gustavus P. Head, M.D., Prof. of Rhinology and Laryngology, Chicago Post-Graduate Medical School. The Year Book Publishing Co., 40 Dearborn street, Chicago. Price for the series, \$5.50, in advance.

Volume V.—Obstetrics. Edited by Joseph B. DeLee, M.D., professor of obstetrics in the Northwestern University Medical School. April, 1904.

This volume contains abstracts of the most important topics on obstetrics during the year. The critical remarks by the editor add materially to the value of the work.

Volume VI.—General Medicine. Edited by Frank Billings, M.S., M.D. and J. H. Salisbury, M.D. May, 1904.

This is a fine compendium of recent progress in internal medicine. The article on typhoid fever is exceptionally complete; diseases of the stomach also are thoroughly considered in the light of modern research.

Physician vs. Bacteriologist.

By Prof. Dr. O. Rosenbach, of Berlin. Authorized translation from the German, by Dr. Achilles Rose. Price, \$1.50. Funk & Wagnalls Co., New York and London. 1904.

In the first place we wish to state that we read this work with great interest, as it discusses the live questions of to-day. It is an interesting book and we heartily recommend it for general study.

At the same time we feel that Dr. Rosenbach has failed to restore "the rights and re-establish the position of the general practitioner." These nothing-but-bacteriologists have done a great work both on bacteria and predisposition (immunity) and their work has always been subordinate to the practitioner and their conclusions always had to be tested clinically. Now, when the subject of bacteriology and immunity is becoming so very complex and its intricacies almost hopeless, the bacteriologist will really need encouragement.

Neither do we share the fear that bacteriophobia will become dangerous if the present views on bacteriology prevail. It makes the world more careful. Predisposition is very important, of course, and the modern brilliant studies on immunity have brought this out and the physician of to-day does not ignore it. But if we can never expect to control infections, we certainly never expect to control predisposition. By taking our fighting ground on the field of predisposition exclusively, we only make the task more formidable. Both grounds must be relentlessly occupied and there should never be any antagonism between physician and bacteriologist. They must work hand in hand.

Dr. Rosenbach even does not give the physician due credit. The infectiousness and contagiousness of influenza are certainly established and was done by clinicians, and his assertion that he is "far from looking upon the infectious character of the malady as being established even with a slight degree of certainty," does not accord with the world-wide family physician's experience. He tries to shift the etiology of this disease to some obscure intangible meteorological influence, which is certainly a retrograde tendency.

His attacks on Koch's work can be judged by the others but we hardly believe it will attract much attention. His generalities on serum therapy will not appeal to the general practitioners. Those who have seen diphtheria antitoxin do the work will still retain the hope that others will be discovered. No amount of juggling with hospital statistics can change the physician's convictions who knows how to use antitoxin.

Dr. Rosenbach will get neither credit from the physician nor bacteriologist for his destructive theoretical considerations.

The Mother's Manual.

A Month by Month Guide for Young Mothers. By Emelyn Lincoln Coolridge, M.D., visiting physician of the Out-patient Department of the Babies' Hospital, New York, etc. Illustrated. Price, \$1.00. A. S. Barnes & Co., New York. 1904.

This work can be safely recommended to mothers. It is very conservative, and yet is based on the soundest pediatric principles; then it is practical—not filled with valueless theoretical considerations.

The Doctor's Recreation Series.

Charles Wells Moulton, general editor. A. J. Saalfeld Publishing Co., Akron, Ohio. 1904.

Volume I.—The Doctor's Leisure Hour, Facts and Fancies of Interest to the Doctor and his Patient. Arranged by Porter Davis, M.D. Price, \$2.50.

The first volume has delighted us and we have had many hearty laughs between working hours. The series will comprise 12 volumes, and if they all prove as entertaining as the first volume we have no doubt that a successful sale will be assured. The first volume, and we suppose the other volumes will be similar, is a large one—size 7 by 10 inches, beautifully bound and printed on fine paper. Several fine illustrations beautify the volume.

As to the contents, we must state that it contains the masterpieces of ancient and modern wit and humor which relates to medical life. Here are recorded the pranks of the medical student, the witticisms of the professor, the mistakes of the young doctor, the blunders of the ignorant patient, and the blatant noise of the quack.

The physician needs some literature which will soften the hours when work and worry wrinkle his face. This literary library promises to fill this want. We believe every physician can afford it; it is not a luxury, it should be regarded as a necessity.

The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 25 cents. The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

This is one of the neatest and most complete Visiting Lists offered to the profession. The Dios Chemical Company propose to furnish a limited number of this unexcelled Visiting List to the profession for 25 cents. The doctor will readily recognize that the Dios Company is saving no expense in keeping its name prominently before the profession, for whom it manufactures products, of more than ordinary merit, exclusively for the physician to prescribe. Those of our readers who desire a complete Visiting List, have only to remit 25 cents (for postage and wrapping) to the Dios Chemical Company, St. Louis, Mo., and they will receive it.

NOTES AND ITEMS.

Errata.

Page 64, July issue, the authors name of "The Perverts" should read William Lee *Howard* instead of *Harvard*.

The American Neurological Association

Meets in St. Louis, September 15-17, 1904, at the Planters' Hotel instead of in the World's Fair Grounds as originally planned. The sessions will be from 9 a.m. to 1 p.m. daily. A general invitation is extended to the medical profession to attend.

The Heredity of Gastrointestinal Diseases.

Jung (*Phil. Med. Jour.*) has made a most painstaking investigation of a group of families in order to determine whether chronic gastrointestinal conditions are hereditary or not. In 13 families there was no apparent similarity in the conditions. One family was rather doubtful and in 26 families there was very marked similarity in the degree of acidity. Enteroptosis does not appear to be transmitted to any considerable degree, only 2 of the families in which similarity existed showing it in two members of each, and 9 in which one member had enteroptosis and another gastropotosis. Hyperacidity appears to be more frequently repeated than any other form of gastric disease. It appears that duplicate instances of gastropotosis, hyperacidity and subacidity occurred in an average of 34.5 per cent of the families.

New Orleans Polyclinic.

Eighteenth Annual Session Opens November 7, 1904, and
Closes May 28, 1905.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of Medicine and Surgery. The Specialties are fully taught, including Laboratory and Cadaveric work.

For further information, address New Orleans Polyclinic, Postoffice box 797, New Orleans, La.

WORLD'S FAIR NOTES.

The Physician at the Louisiana Purchase Exposition.—II.

There are a certain class of patients for whose benefit the physician often prescribes some additional exercise. We have all learned that few people will walk just for the sake of exercise; there must be some other motive. It is for the same reason that routine prescriptions of calisthenic exercise or Swedish movements are ineffective. The incentive is altogether insufficient. For these patients nothing will serve as a greater stimulus for walking as a visit to the Louisiana Purchase Exposition. A two or three weeks' visit will necessitate an amount of walking to which the patient would inevitably rebel at home. But here it is done as a matter of course.

The World's Fair should be called the City of Magnificent Distances. Take an idle stroll from the Main Entrance through to the Phillipine Exhibit, or from the Administration Entrance to the United States Government Building and the average person has a feeling of exhaustion. But keep this up daily, by walking and seeing from 9 a.m. until 6 p.m. and after six or seven days (it is really surprising!) a feeling of strength comes back and that disagreeable sense of fatigue after a few hours sight-seeing does not manifest itself. Hence, we have here really a new cure for that "tired feeling." It is infallible. While they are continually increasing the number of health resorts and healing methods on Continental Europe, we have here a wonderful health resort and health restorer. Nothing is so beneficial in gout, chronic rheumatism, rheumatoid arthritis, hysteria, neurasthenia, hypochondriasis, obesity and general debility. The peculiar rays reflected from the buildings have special healing properties, and the pure artesian well-water (sold all over the ground for one cent a glass) has extraordinary internal cleansing capabilities. Hence, with this enforced exercise, a forgetting of self in the magnificent surroundings, the brilliant sunshine and the cleansing of water the most obstinate cases of a variety of chronic diseases are sure to recover. We are emphatic, therefore, in our previous

This is the second of a series of three papers written by the Editor on the Medical Aspect of the Louisiana Purchase Exposition.

statement, that the Louisiana Purchase Universal Exposition is the principle health resort of this continent at present. Physicians should pay more attention to this possibility at the World's Fair; for we are losing more and more the incentive to work, and the human organs become frightfully lazy.



Palace of Education, Looking West.

Who was it that argued that it is man's dislike for work which has caused more progress in the world than anything else? In going through the Machinery Hall, the Electricity Palace or the Palace of Transportation, the human mind is awed by the stupendous machines used to increase the power of human labor, not so much to diminish work. Man works harder than ever, not because he likes work especially, but because his desires have increased. His thirst for novelties are insatiable, and it is this unquenchable thirst that makes the earth move.

To the physician who has become neurasthenic from overwork and carrying other people's burdens, we advise that he sit in the shade of Festival Hall in front of the Colonnade of States, when the western sun is low, and gazing down on the wonderful vista before him, dreams the inspirations of youth and beauty. There is nothing grander than this sight in the world. Another magnificent view is from the north side of the Government Building.



Palace of Varied Industries.

Copyright 1908
by the Board of Trustees of the
Chicago World's Fair

But we began to walk, and it may be as well to follow this occupation.

Soon as you enter the main entrance, to your left is the Model Street. We wonder why it was so called until we observed that it was paved by a different material every fifty feet. On each side of it are the City Buildings, New York having the first. Here the physician will be especially interested in superb methods, as illustrated in many ways, used in the



Tower of Machinery Palace.

American metropolis to clean streets, collect and utilize garbage, etc. It is a good sanitary lesson. It is really a good sign to find that sanitation is receiving the attention of scientists and capitalists. Not without interest are the illustrations of the water supply of this enormous city. Models of the great bridges and especially of that stupendous engineering feat, the construction of the underground transit, will be generally instructive. The other building—Kansas City, St. Paul, San Francisco, etc., besides having charts and paintings illustrating the cities' resources, also give more or less the work of the Boards of Health, and deserve attention.

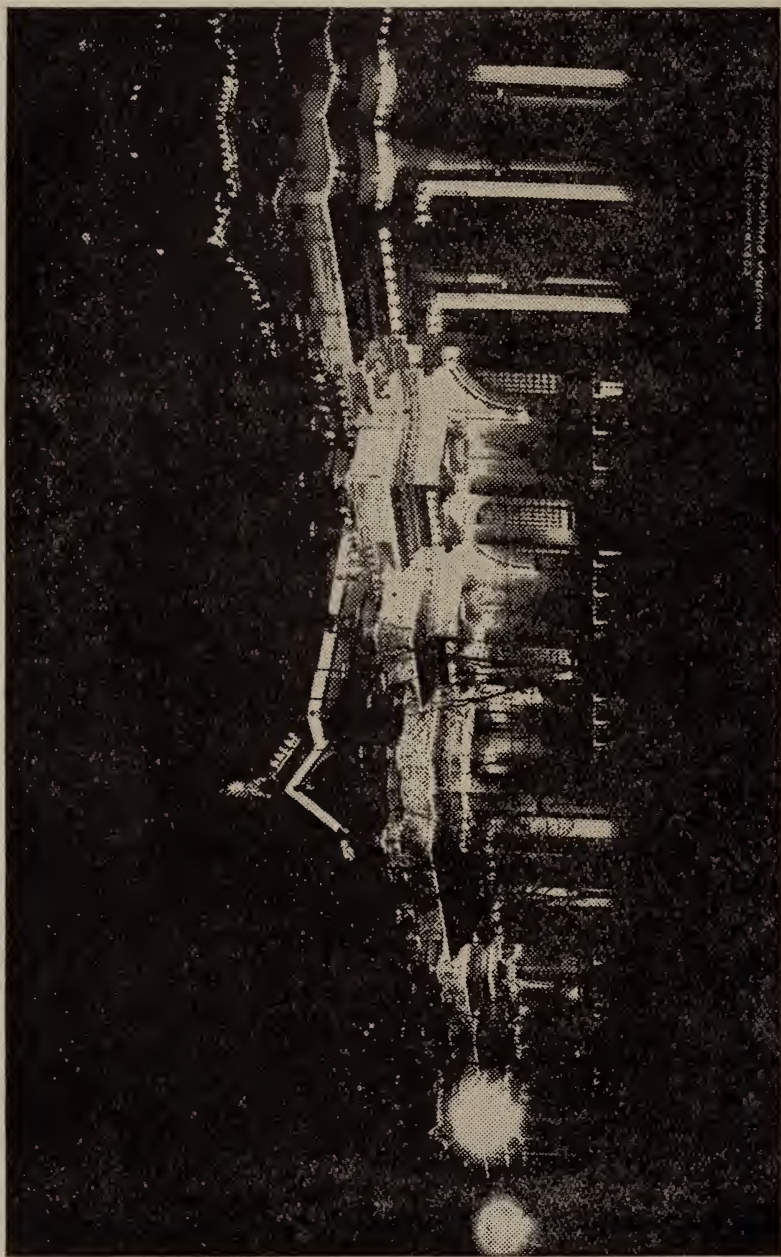
If you are not allured into some of the fine restaurants you will come, farther on, to the model play ground and nursery, a feature of the Fair which deserves inspection. Physicians are often required to give instructions as to the exercises for children, and the great variety of those displayed should not be overlooked.

Going still farther, you will not fail to be pleased with the model tents of the Marine Hospital Corps. See the construction of the tents, their surroundings and their furniture. Such tent life must be far from disagreeable, and inasmuch that tent-life has become a recognized therapeutic measure, the construction and sanitation of these tents will interest all.

Passing the enormous tower of the Wireless Telegraph you reach the Emergency Hospital. It is really a model hospital and the operating rooms with their apparatus, the wards with their beautiful white beds, the insolation wards—all will be instructive to the average physician or surgeon. Already 10,000 patients have been treated there since the hospital was opened two years ago.

The Government Building is near by, where the exhibits of the Public Health and Marine Hospital Service show modern surgical methods. During the summer months demonstrations on the sanitation of malarial and yellow fever infected districts promise to be an exhibit of the highest order.

We must repeat, therefore, that the Louisiana Purchase Exposition has a fine exhibition of medical things, the only inconvenience is that it is scattered all over the grounds and a healthful walking exercise is needed to cover the space. But it must be remembered that no megaphone announces these exhibits. You must search among the vanities of this vain world.



Electricity Building at Night.

Many medical associations and congresses will be held in St. Louis during the summer and autumn months, but, perhaps, all will be eclipsed in general interest by the Medical Department of the Congress of Arts and Sciences. Cook (*American Medicine*) writes as follows :

The plan and purpose of this Congress deviate so far from traditional lines that some explanation may be necessary to show how it should interest the medical profession. It is primarily a congress of scholars rather than of specialists. It is divided into 24 departments, one of the strongest of which is medicine. Yet, it is not intended to be a distinctly medical assemblage, but, as we have indicated, a congress of medical scholars.

The department of medicine is divided into 12 sections, embracing the principal fields covered by the subject. These do not include embryology, anatomy, physiology, or bacteriology, subjects which are embraced in the department of biology, but which, it may be expected, will be of equal interest to medical scholars. The order of proceedings will be most easily understood if set forth in detail.

The department of medicine will be opened on Tuesday, September 20, under the chairmanship of Dr. Wm. Osler, with two general addresses by Dr. W. T. Councilman, of the Harvard Medical College, and Dr. Frank Billings, of the Rush Medical College. One of these speakers will review the progress of medicine during the past century, and the other will treat its fundamental conceptions.

On Wednesday morning, September 21, a section of public health will meet under the presidency of Dr. Walter Wyman, Surgeon-General of the United States Marine-Hospital Service. It will be addressed by Professor W. T. Sedgwick, of the Massachusetts Institute of Technology, and Dr. Ernst J. Lederle, formerly commissioner of health of New York City. Communications relating to the subject are also expected from several eminent members of the profession.

A section of otology and laryngology will meet at the same time : Chairman, Dr. Glasgow, of St. Louis; principal speakers, Sir Felix Semon, of London, Physician Extraordinary to the King, and Dr. J. Solis-Cohen, of Philadelphia.

In the afternoon a section of preventive medicine will meet under the chairmanship of Dr. Mathews, president of the Kentucky Board of Health. It will be addressed by Profess-

ors Ronald Ross, of Liverpool, and Celli, of Rome. Some question has been raised against the advisability of separating these two sections. This separation is, however, of no practical importance, and all interested may equally well attend both.

At the same time with preventive medicine, a section of pediatrics will meet under the chairmanship of Dr. Rotch, and will be addressed by Escherich, of Vienna; Jacobi, of New York, and others.

On Thursday morning there will be meetings of sections of pathology and psychiatry. The chairmen of these sections are Drs. Simon Flexner and Edward Cowles. Marchand, of Leipzig, and Orth, of Berlin, accepted invitations to address the section of pathology, but it is not certain whether both will be able to attend. Psychiatry will be treated by Ziehen, of Berlin, and Dana, of New York.

In the afternoon a section of neurology will meet, under the chairmanship of Professor L. F. Barker, of Chicago, and will be addressed by Kitasato, of Tokio, and Putnam, of Boston.

On the general plan of the Congress, one of the two principal speakers in each section will treat of the relation of the subject to other departments of knowledge; and the other, of its present problems. Beside the principal speakers, it is expected that each section will receive several brief communications from leading members of the profession in attendance at the meeting.

It will be seen that the division into sections is one of subjects rather than of men. The chairmen and speakers will be different in different sections, but the attendance will be the same, except in the sections holding their meetings at the same time.

It is hoped that this program will prove attractive to such leading members of the medical profession in America as may be able to visit St. Louis and take part in the proceedings of the Congress.

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No. 3.

ORIGINAL CONTRIBUTIONS.

Some Useful Anatomical Landmarks as a Guide to the Operation for Opening the Mastoid Antrum.

By SELDEN SPENCER, A.B., M.D.,

ST. LOUIS, MO.

Instructor in Otology, Medical Department Washington University.

THERE is probably no operation on the human body that requires a more exact knowledge of certain minute details of the anatomy of the field operation than the one here referred to.

A thorough knowledge of the anatomy of the part to be operated upon is ever essential to the surgeon. It is just as necessary to know what to avoid as what to attack. This is peculiarly true of the aural surgeon. He must be familiar with the location of all the important structures in and around the temporal bone. Furthermore, he must be well acquainted with certain bony landmarks which will give him valuable hints as to the location of such deep structures as he may wish to meet or avoid.

It is not my intention to describe the technic of the mastoid operation. However, there are one or two points of

technic which it will be necessary to notice and this I shall do in following briefly the course to be taken in the so-called radical operation. I take the radical as the complete operation although the points to be referred to as bony landmarks are of equal importance if only the simple mastoid operation is contemplated. I wish first to notice the important anatomical structures that deserve especial attention and to point out their relation to the external landmarks hereinafter mentioned.

The major points that we are now to consider are the aditus and the antrum, the sigmoid sinus, the horizontal semicircular canal, the facial nerve and the interior of the cranial cavity. Primarily, it is the antrum that we seek and to which we wish to obtain entrance. Some hold that this is unnecessary and even inadvisable in acute mastoiditis; but I believe that it is always better to reach the antrum if possible and secure free drainage.

Other cells in the mastoid process may be lacking but the antrum is always constant, and the first object in any of the mastoid operations should be to reach the antrum and then to enlarge the opening thus made. The facial nerve is to be avoided as is also the sigmoid sinus, the cranial cavity and the semicircular canals, excepting, of course, where any of these parts are themselves involved and we seek to expose them as, for example, in thrombosis of the sinus or brain abscess. Where there has been a great deal of destruction of tissue any or all of these parts may have become affected and it may become necessary to expose them in removing diseased bone, but care must be taken not to injure them.

This discussion is not limited to any particular operation. Whether, therefore, one wishes to make the simple opening into the antrum or to open the entire cavity into one, these bony landmarks will be of great value in guiding his work, and, also, the method of procedure will be the same inasmuch as the so-called radical operation is a working out and enlarging of the simpler operation.

The position of the initial incision into the soft parts first demands attention, and it is a matter of no small importance. The proper location of it will enable us to better view the superficial bony field and thus more easily locate our bony landmarks.

A great many aural surgeons advise that this cut in the

soft parts be made parallel to the posterior auricular groove at the distance of about one-half an inch behind it. It is preferable, however, to make the incision in or as near to this groove as possible, and if this incision is inadequate another incision may be made at right angles to it at a point on a level with the base of the mastoid. The incision made in the posterior auricular groove not only leaves less scar than an incision posterior to it but enables us to see more distinctly those landmarks that constitute our guides.

The posterior and posterior-superior walls of the outer bony orifice of the external auditory meatus should then be entirely exposed, as the tip of the mastoid and the entire mastoid region must be laid bare. This bony surface thus exposed should be carefully examined and the linea temporalis, spina supra meatum or spine of Henle and the line of attachment of the sterno-cleido-mastoid muscle be located. The surface that is surrounded by these points and an imaginary line parallel to Henle's spine is the planum mastoideum, and in the anterior portion of this plane we begin our opening which is to be directed toward the antrum. The work on the bone is to be done with a gouge, or chisel and mallet, and the direction of the external of external auditory meatus downward, forward and inward is to be followed. In opening the antrum of children under 2 years old the curette may be used.

The question of the depth of the antrum is a most important one and merits careful consideration. The depth is not uniform, but varies according to age and individuality. In infants of 1 year and even older the antrum has scarcely any depth and can be easily penetrated with a knife or curette. Authorities differ widely as to the maximum depth of the antrum. In a recent article by Dr. Philip D. Kerrison, of New York, entitled "The Limits of Variation in the Depth of the Mastoid Antrum," authorities are quoted as giving the following maximum depths; Gruber, 15 mm.; Politzer, 15 mm.; Buck, $\frac{3}{4}$ inch; Dench, $\frac{7}{8}$ inch; Schwartz, 25 mm. and Broca, 29 mm. In my limited experience I have never found a depth of more than $\frac{5}{8}$ of an inch. As well as can be judged from the living subject and by measuring twenty temporal bones, the greatest depth found was less than $\frac{3}{4}$ of an inch. Dr. Kerrison in his article shows a relation between the depth of the antrum and the postero-superior canal wall and

states that "the depth of the antrum is always less by actual measurement than the postero-superior canal wall." I have since made measurements on my dry specimens and find that these support the accuracy of this rule.

We thus have a guide to the depth of antrum and to its position in relation to some of the bony landmarks that we have already mentioned, for it is always situated below the supramastoid ridge, above and in front of the squamomastoid antrum and behind the spine of Henle.

The supramastoid ridge is of further importance as it is almost always situated a little below the floor of the middle fossa of the cranium, sometimes at a level, but very rarely above it. Hence, in attacking the bone below this line one is very unlikely to enter the cranial cavity accidentally and most likely to enter the antrum by following the direction mentioned. This ridge is usually distinct, but it may be indefinite and in children this is often the case.

The spine of Henle is of importance in locating the antrum for the opening should be made at a point just a trifle behind it; and it is of further importance in giving us at least a warning as to the location of the sinus. If the spine of Henle is situated very high it is a probable indication that the sinus is located unfavorably and rather far forward and also that the cranial cavity is rather low. For example, should an imaginary line be passed through the spine parallel to a similar line through the supramastoid ridge, its distance from that line being equal to its distance from a line passing through the squamomastoid suture, this would indicate a favorable location of the sinus and cranial fossa; but as that line approached the line of the supramastoid ridge, we should be warned of danger and expect to find the sinus forward and the cranial cavity low. The value of this observation relative to the position of the sinus is only suggestive. In a series of fifty temporal bones examined I found that this rule was applicable in about half the cases only. It is by no means a rule of unvarying application.

The shape of the skull will also aid in judging of the location of the sinus. In long skulls it will be more posterior, while in short, broad skulls it will reach farther forward and be more dangerously located. Also, in broad skulls the middle fossa is more likely to be opened. Usually the sinus is more anterior on the left side than on the right but the difference is not significant.

The facial nerve is not so likely to be wounded in doing the simple operation, but in doing the radical operation great care must be taken in removing the postero-superior wall of the meatus. The chisel should be driven at a very obtuse angle and only small flakes at a time should be removed. The face should be watched for the purpose of observing any twitching.

By paying careful attention to the details in these operations the danger of serious accident will be thereby much reduced.

Infection—An Overlooked Disseminator.

By E. A. BABLER, M.D.,

ST. LOUIS, MO.

IF it be true that the world exists for the education of man, and if everything tends in a most wonderful manner to abbreviate itself and yield its whole virtues to him, then man should secure the best education possible, in order that his sojourn in this earthly clime may be as beneficial, as prolonged, as happy and as full of joy and sunshine as was intended by the Creator, since we know that it is where ignorance abounds, that idolatry, pestilence, disease, sorrow and human wretchedness reign supreme.

Education is the child of Christianity and a sister of civilization.

When the enlightening message of the missionary touches the throbbing heart of the unloved and untutored savage it transforms him just as surely as the warm, affectionate and inspiring kiss of the June-day sun transforms the budding rose into a beautiful and developed creation of Nature—all that is pure and beautiful is brought forth in its full array of splendor and fragrance. The savage foe becomes a friend, and the stranger a brother. Then education and civilization following the blazoned pathway, changes the prairies and forests into meadows, fertile fields and farms, and cities and happy homes, where childrens' sweet voices gladden the heart of the toiler, and where love, and sunshine and joy, and words of thanksgiving and praise are as boundless as the bounties of life.

Just so has that great science, medicine—the science that

originated in man's desire to stay the tide of sickness and disease and suffering, and prolong the happiness and career of his more unfortunate brother; that science that made it possible to change the city of filth and pestilence, and disease and sorrow into a land of health and joy, and happiness and purity; that science whose master-word Osler has called *work*—has been a blessing to mortal man.

In the times of Esculapeus, and Hippocrates, and Galen, medicine was in its infancy. These early workers tried to successfully battle against disease by treating the symptoms, but it remained for a Lister, a Pasteur, a Virchow, a Rush, a Sims to direct and teach us to seek the true cause of the symptoms, and furnish us with remedies more accurate and scientific. The lives of these ardent workers whose labors have done so much to alleviate the suffering of man, and whose memories we cherish, will ever embellish the annals of history.

Through the constant and painstaking researches of an illustrious Koch, a renowned and faithful von Behring, an honored and lamented Lazear, and others, the promising and life-saving field of preventive medicine—that science whereby it is possible to prevent and thus successfully stamp out many diseases that have heretofore resisted our every effort—has been opened up to us.

Yesterday we were striving to cure disease after it had developed—to-day we seek to prevent its development.

He who has sat beside the convulsed form of the tetanus patient, or he who has witnessed the ravages of yellow fever, and was thus constantly reminded of the inefficacy of our remedies, can easily foresee and appreciate what an important rôle preventive medicine is destined to play in the preservation of the health, both of the individual and of the community.

Biggs, in his Atlantic City address, stated that the future possibilities of preventive medicine seem to be even greater than its past achievements, for almost every development in bacteriology opens up a new field of work for the sanitary authorities.

There can be no question but that in order to obtain the full virtues of prophylaxis it is absolutely necessary that each and everyone of us do our part, and do it *early*, as well as with *thoroughness, skill and determination*.

For instance, it is not only necessary that the boy whose hand has been injured by a blank cartridge receive an imme-

diate injection of antitetanic serum, but it is far *more essential* that the wound be exposed to its depth, the paper wadding and other foreign bodies removed, the parts thoroughly cauterized and then the proper dressing applied.

Bacteriology has taught us that phthisis and diphtheria are disseminated by the sputum and nasal discharge, which latter are hotbeds of infection. Experience has taught that during desquamation scarlet fever, measles, etc., are especially contagious. We know that the desquamated epithelium clings tenaciously to clothing and everything with which it comes in contact; even the house-cat has been known to convey scarlet fever.

It is in the homes of the poor, and especially in the crowded quarters of the tenement house that we find the uneducated and careless expectorating whenever and wherever they find it convenient or chance to be. It is also here that we find the narrow passage-way, the steps, the darkened corners, the court, and even the floor of the room to be reeking with filth, partially-dried sputum and what-not. It is also in such homes that the physician finds the convalescent scarlet fever patient throwing pieces of desquamated epithelium upon the floor. No wonder that we find phthisis, tuberculosis, diphtheria, scarlet fever and smallpox in such quarters—it is only because sanitary measures have been instituted that such affections are not *more* frequent.

But sanitation has not successfully stamped out such diseases. Why? Because *one of the most, if not the most, prolific means of disseminating phthisis, scarlet fever and like diseases, has been completely overlooked.* We refer to the garment that drags upon the floor of the home; that collects the filth and disease of the pavement, the steps, the darkened passage-way, the street, the alley and from wherever its wearer may chance to go. In dry weather, a cloud of dust, carrying infection and sickness into the faces of others, marks her passage, while at other times the dragging portion acts as a sponge or mop.

These are absolute facts and not a mere fancy. Look about you and you can doubt no longer. He who runs may read, and he who sees should learn and be convinced.

This is an age of preventive medicine, and if we would reach the ideal we must first do everything in our power to prevent infection. We post notices, fumigate, enact anti-

spitting laws, etc., but overlook that common and most frequent contaminator and disseminator.

In presenting this memoir it is our sole desire to call the attention of the medical profession to this important factor in the hope that the skirt will become a comfort to its wearer and cease to be a disseminator of infection, sickness and sorrow.

The remedy seems so simple, and so necessary, and so essential to our well-being and future that it should appeal to every human being.

Days may lapse into months and months into years before the world is made to fully appreciate the dangers that accompany this untidy and unhealthful condition, but the day is surely coming when women will not be permitted to wear the trailing garment in public places.

We truly believe that the day is not far distant, however, when the medical societies of the country will take the matter in hand and do a most beneficial work for humanity.

We concur with Grant, who says: "It is our duty to protect the people against their own ignorance and folly, as it is the duty of the state to make and enforce laws by appropriate legislation for the public weal."

In conclusion, we would ask that every practitioner consider the matter most carefully and do his part toward reaching the ideal.

[We have just learned that in far-away Bohemia the law has gone forth forbidding women to wear skirts which drag upon the ground in any of the streets or parks of the cities. It is thus evident that that race of mankind has become convinced of the dangers of this untidy and unsanitary style of garment.]

Scarlet Fever Treated With Antistreptococcic Serum.

By H. N. CHAPMAN, M.D.,

ST. LOUIS, MO.

MARCH 27, 1904, I was called to see Enra M., aged 5 years, who presented all the classical symptoms of scarlet fever. Her temperature was 103.5° , pulse 120; typical eruption all over the body, tonsils swollen and punc-

tate exudate present on them, tongue coated white with the papillæ rising through it. She had fever the day previous and vomited. The temperature continued to rise and soon reached 105.2° , from which it was reduced by sponging, but so persistently did it rise that a bath every two hours was necessary to hold it down. The glandular involvement was not great, though the tonsils and uvula were soon covered with the white exudate of scarlatinal angina.

Because of the persistent high temperature on April 1st, I injected 10 cc. antistreptococcic serum, and in ten hours the temperature dropped to 101.5° . This dose was repeated every twenty-four hours and the temperature reached normal ten hours after the fourth injection. The first, or rather most marked effect of the serum in reducing the temperature was always manifested in from ten to twelve hours after administration, and from this time on it would gradually rise until the next injection. After the fourth injection the child became playful and called for her regular diet, of which, however, she only partook in small quantities.

The exudate in the throat began to clear up rapidly and what glandular swelling there was rapidly subsided.

Two more injections were given, after which the temperature fell to normal and remained there.

After the first injection the temperature never rose above 103° .

The baby brother of Erna, aged 15 months, developed the disease, but it was a very mild attack. No serum was given him.

Of course, "one swallow does not make a summer," but so favorably impressed am I with this case that I shall consider myself remiss if I fail to give the serum a trial in any severe case of scarlet fever which may fall under my care.

The only other treatment was H_2O_2 for a throat wash, and benzoate of soda internally, and when the temperature had subsided, sulphate of strychnin and an organic iron preparation; and calomel for the bowels.

April 16th, an urticarial-like eruption developed all over the body, the itching making the child very restless and peevish; a slight rise of temperature to 101° which, however, subsided in two or three days.

A purulent otitis developed which, under simple local treatment, subsided, leaving the ear in perfect condition.

Two Unusual Ovarian Cysts.

Report of Cases and Presentation of Specimens.

By A. H. MEISENBACH, M.D.,

ST. LOUIS, MO.

THESE specimens which I present are unusual from the fact that both patients have undergone a second laparotomy. The first specimen is unusual on account of its size. It is not often we find an ovarian cyst of that size, because ordinarily the diagnosis is made earlier and the cyst removed. I never saw one that approximated this in size.

The patient from whom this cyst was removed was 38 years of age at the time of its removal. About eight years ago I operated upon this woman, who was then single. I operated then for hematoma on the right side. There was nothing extraordinary about the case, though the exact nature of the hematoma could hardly be determined at the time of the operation. I saw her again about the first of February. She had been married about seven months at the time of coming to me. Her husband was very much exercised on account of the condition because it placed him in an embarrassing light. She was sparsely built, weight about 130 pounds and was about 5 feet 7 inches tall. Her appearance was very striking. She said she had been treated for a year for varicose veins, that they were better but still gave a great deal of trouble. Her husband, who had been married before, said he noticed something unusual about his bride although he offered no solution of the condition. A month before coming to me she was examined and the statement made that it was possibly pregnancy. To this the husband, of course, took decided objection. Finally they drifted to me because of her having had my services before.

The woman's appearance made a decided impression on me because her contour, even with the clothes on, was not that of a pregnancy. After taking an anterior, posterior and lateral view I decided it was not pregnancy. The abdomen was immensely distended and the contour was full, not flattened out. The surface of the abdomen was domeshaped and did not sag or tend to sag in the middle. That is a distinct difference between an ascites and a cystic tumor. There was dullness over the anterior of the abdomen extending to the margin

*Specimens presented before the Medical Society of City Hospital Alumni,
May 5, 1904.*

of this tumor. The flank and iliac regions were tympanitic. This could be distinctly and carefully outlined so we could outline the tumor, especially by percussion. The vaginal examination clinched the case. I found a retroverted uterus of the infantile type, so by exclusion I could arrive at no other diagnosis than that of a very large ovarian cyst, but it was hard to determine from which side it came. I gave them my opinion and told the woman the only thing to do was to undergo an operation. She had had an operation before and a woman who has undergone one laparotomy is not easy to get on the table again. But she was becoming more emaciated, her appetite became less and she was gradually losing ground and she submitted to the operation, which was done on February 18th.

There was nothing unusual about the operation. The incision did not exceed three inches in length. The moment I entered the abdomen this tumor presented itself and by the use of an ordinary trocar I was able to empty and remove it. The pedicle was long and there were no adhesions anywhere. There were two cysts, the fluid escaping from the anterior one was like coffee grounds, with no odor and a little thicker than the ordinary fluid. I then went in with my finger and found the other cyst, which I emptied, and after both had been thoroughly emptied it was easy to remove them. The pedicle was ligated in three sections and the woman made an uneventful recovery.

She was in my office last week and the varicose veins had disappeared. This cyst was on the left side. The uterus showed no evidence of having been impregnated. The cyst was 16 inches in its long diameter, 11 inches in its transverse diameter, 8 inches in depth and weighed about 30 pounds when filled with fluid.

The second case was unusual, first, because it was the second operation this patient had within about a year, and then because of the character of the tumor removed. The patient was 68 years of age. A year ago last October she was operated upon in Davenport, Iowa, for presumably an ovarian cyst. A letter from the surgeon stated that there was nothing unusual about it. This woman after the operation went to Eureka Springs and spent the time intervening until about the middle of February at Eureka Springs. She was much emaciated and the abdomen was much distended. At Eureka

Springs she had the misfortune to fall into the hands of a quack, a woman at that, who tried all means to relieve her of this "water on the womb," as she termed it. I sent her to the hospital to buoy her up somewhat, but her respiration became so impeded that I found it necessary to operate at once. This case presented many similar features to the first one but there was not that clear definition of the tumor. In this case also there was dullness in the flanks, so it seemed as if there must be some other condition along with that of ovarian growth. We did not get the clear shaped outline on percussion. Another thing was the peculiar condition of the cul-de-sac. I found a hard mass with a notch or depression, as if formed of two fingers. It was perfectly hard. This woman was inclined to be sallow and had the peculiar facial expression often seen in people with abdominal tumors.

The moment I made an incision a dark straw-colored fluid shot out which proved to be ascitic fluid. So I thought at first I had made an error and was dealing with ascites rather than a cyst. The fluid was very carefully withdrawn, her peculiar circulation not allowing of too rapid escape. I have seen patients collapse and die from tapping the abdomen. After the abdomen had been emptied and I had enlarged my incision, I found the suspicion I had was correct. The peritoneum was thickened, nodular, the intestines dotted with small nodes, and looming out from the pelvis was a cystic tumor. I succeeded in ligating the pedicle and getting the patient off of the table alive and that was about all. For an hour or two she was in a most precarious condition and I had to resort to the means usually employed in such cases.

The appearance of the tumor led me to believe that I had to do with a cancerous condition, which the microscope showed to be the case. The case is peculiar because in the first operation there was nothing suspicious shown, and then this growth following which is of malignant character. What relation this may have borne to the first operation I can not say. This woman did not do well and it was an up-hill tug from the time of the operation until she was able to leave hospital and return to her home. I expect a return of the ascites and the cachexia that usually follows. The microscope showed an ovarian cyst with carcinomatous degeneration. This is comparatively rare and in all my operative work I have found but few such cases.

LEADING ARTICLES.

PERTUSSIS—ETIOLOGY AND SERUM THERAPY.

By E. A. BABLER, M.D., St. Louis.

Jenner's discovery, and its proper application, has rendered civilized man immune to the most dreadful plague to which the human race is subject. The day is fast approaching when the antivaccinationist will become *educated* enough to appreciate this great fact, and realize how *absurd his contentions really are*.

From Jenner to Lister, and to Pasteur, were but steps of time, and yet to the immortal Pasteur alone should credit be given for leading the way to that therapeutic agent that has done so much to stay the hand of disease and sorrow, and to make life more beautiful, more joyous and more sublime—serum therapy.

Many diseases have continued to baffle our most careful and most thorough research, both as to etiology and successful treatment

Among these may be mentioned pertussis, the mortality rate of which, according to Jacobi, in New York City, is equal to that of typhoid fever.

The earliest literature to appear upon the subject was presented in 1578, when Bocillou described it as an epidemic cough.

In 1791, Dautz published the first accurate monograph upon the subject.

Many of the earlier investigators considered the disease an affection of the stomach. Bean regarded it as a laryngitis, while Brons-sais held it to be a bronchitis.

Friedleben and Mussey contended that it was due to the pressure of a swollen lymph node in the vagus.

Copeland and Webster felt confident that it was merely a neurosis.

Baginsky was the first to demonstrate that the cough was due to a laryngeal irritation.

Linnaeus, the famous botanist, first proposed the germ theory.

He was convinced that pertussis was due to the inhalation of the larvæ of insects.

Afanassiev made quite extensive researches and succeeded in cultivating a short bacillus which, when introduced into the trachea of guinea pigs, produced an inflammation of the mucosa.

Czaplewski has isolated a short, non-motile, rod bacillus, with slightly rounded ends, and morphologically somewhat similar to the Pfeiffer bacillus.

Jachmann and Krause have reported their discovery of a bacillus resembling the Eppendorf bacillus. Out of 18 cases examined they only found the Czaplewski bacillus present in 4, and do not consider it responsible for whooping cough. Their bacillus resembles the influenza bacillus. It is very small and presents in nearly all specimens examined.

Koplik has recently succeeded in isolating a bacillus quite similar to that described by Czaplewski.

Manicatids, of Jassy, has recorded his extensive and thorough investigations made in 89 cases. The report is replete with valuable information upon the subject. The cases were treated at the University of Jassy.

He very carefully examined the sputum of 87 pertussis patients. The fresh sputum was collected in sterile receptacles and a peptone solution immediately added. The tube was then shaken violently a number of times; a small quantity of it was inoculated on agar-agar plates and placed in the thermostat at 38°C.

In more than 80 per cent of the specimens he found a bacillus which he has never been able to find in the sputum of healthy individuals.

He considers this bacillus as the producer of pertussis and has called it *Z Bacillus*. The specimens showed the presence of various other bacteria, *e.g.*, pneumococci, streptococci, staphylococci, etc.

The *Z* bacillus has some points in common with the influenza bacillus, Czaplewski's bacillus and the Jachmann-Krause organism, but is larger and more isolated, and differs in other respects from the Pfeiffer bacillus.

It appears as a fine, small, extracellular, straight, non-motile bacillus, with tapering and slightly rounded ends. It does not stain after Gram, but readily takes the anilin stains. It stains uniformly and

the poles show no important difference in color. It may be quite difficult to find the bacillus, and so the author suggests that several specimens be examined. The bacilli often collect in small clumps, hence great care should be taken not to mistake them.

The bacillus grows well on agar plates and is better isolated on this media, than from Loeffler's serum plates.

On agar the bacillus grows in twenty-four to forty-eight hours as very fine, round, slightly elevated, transparent, shining, slightly blue but not characteristic colonies. The bacillus grows in the presence of air, but is facultative anaerobic. The temperature should be from 37 to 39°C.

Microscopical preparations from agar cultures show the bacillus as slightly shorter than $.5 \mu$ and about half as thick. It is often difficult to differentiate whether it is a coccus or a bacillus. Its ends are slightly rounded and one end is thicker than the other. In old cultures clumping and involuted forms are noted.

When the bacillus resembles a coccus the groups are quite similar to the staphylococcus and streptococcus.

In glycerin-agar the colonies are fine, transparent and possess a thickened center. Microscopic preparations show numerous involuted forms.

In gelatin the bacillus grows slow. On the surface it produces a thin, transparent layer, while deeper, it grows as a streptococcus.

It grows best of all in bouillon. In two or three days the medium is slightly clouded; a slight precipitate is noted. After five or six days the culture becomes clear and the precipitate brownish, then yellowish and slimy.

In alkaline bouillon the growth is even more prolific.

Upon potato the growth appears as a thin, shining, yellowish layer. The bacillus grows well in milk and does not cause coagulation.

Manicatide injected 1 cc. of a twelve-day-old bouillon culture under the skin of guinea pigs but in not a solitary one of the fourteen animals thus treated did a positive reaction obtain. He then prepared an aqueous solution of the sputum of pertussis patients but the results remained negative. He introduced the dried sputum into the trachea of guinea pigs and other animals but without success. He concludes that these animals are not subject, ordinarily, to pertussis.

To prove the specificity of the organism indirectly, he injected bouillon cultures into three sheep and two horses. The initial injection was 10 cc. of a twelve day-old culture. The injections were increased gradually, both in amount and frequency, until the desired immunization was secured. One of the animals developed a cough but recovered.

The serum from these immunized animals was used in 89 patients ill with pertussis. Thirty-six were cured and 53 greatly benefited.

One patient was cured in one day, 2 in two days, 1 in three days, 3 in four days, 3 in five days, and the balance in from seven to twenty-six days.

Eight patients recovered on only one injection. These were injected on the 11, 13, 14, 19, 21, 28, 30 and 42 day of the disease, respectively.

One patient received treatment on the fifth day of the disease, 1 on the sixth day, 3 on the eighth, 4 on the ninth, 5 on the tenth, 3 on the eleventh, 1 on the 12, 13, 14, 19, 20, 22, 29 and 30th day, respectively.

One was not benefited by the serum, but in no instance was the serum harmful.

In 18 cases only two injections were necessary to effect a cure. The other cases received from three to six injections.

In the 8 cases complicated by pneumonia and convulsions, great improvement was noted just so soon as the injections had time to act.

Manicatide feels confident that every case of pertussis that is treated before the tenth day of the disease, or even before the fifteenth day, a cure can be effected in from two to twelve days. He has the utmost confidence in the efficacy of his serum.

He found that the temperature of all patients became normal after receiving the injections.

In every case, save one, the severity and frequency of the spasms were rapidly diminished by the injections. This is a very important finding, since we know that every spasm cut short or arrested, every whoop prevented, saves the heart, the lungs, the brain and nervous system from just so much strain and degeneration.

Manicatide's serum possesses agglutinating properties.

Arnheim has demonstrated the presence of bacilli in cut sections of the trachea. He tells us that the cough paroxysm is due to the position of the colonies in the typical cough situations.

One recent writer would have us believe that the paroxysms are to be looked upon as a curative process, since many bacteria are thereby thrown off—perhaps he is also an ardent supporter of the “laudable pus” theory.

Manicatide’s valuable memoir should stimulate some of our most forward American investigators and induce them to take up the work. It is really astonishing to know that not a solitary original memoir relative to the bacteriology and serum therapy of pertussis has been presented to the American literature during the past two years. If a memoir has been presented we have not been able to find it. At any rate, more work along the lines laid down by Manicatide is necessary. Why do American investigators wait longer? The subject is a very important one, and our facilities are equally as good, if not superior, to those of our foreign brother.

In conclusion, we most heartily commend the work done by the worthy Manicatide, and feel confident that he is on the right path. We have nothing but honor and praise for the labors of this researcher.

Any measures that will so rapidly and effectually eradicate pertussis is certainly worthy of the greatest consideration.

Naegele’s measure, and the multitude of “specifics,” whatever that word may mean, advocated for the cure or relief of pertussis, are but gentle reminders that the true etiology and proper treatment are unsolved problems.

EYE DISEASE AND DISEASES OF THE NERVOUS SYSTEM.

Probably it is chiefly due to the writings of Dr. Gould, who in many different articles has emphasized the etiologic relation of eyestrain to diseases of the nervous system, that a renewed interest has been taken by several neurologists in astigmatic and anisometropic defects of the eye, and their causal connection with nervous and mental diseases. A symposium on this subject was given before the New York Academy of Medicine, March 17, 1904, in which the leading neurologists of New York took part. Several of the papers (*Medical News*, July 30, 1904) have recently been published and these give a very comprehensive consideration of the subject of eyestrain and mental disease.

Dana admits that real eyestrain, being a kind of attention or brain strain, can lead to disagreeable results along various lines, yet, after sixteen years of watching, he has found very few cases in which eyestrain is an important and direct factor in establishing even the minor psychoses, though it modifies the symptoms and may add to the disturbance. He calls attention to the fact that 75 per cent of school children have refractive errors, most of which exist without doing harm, as the muscular mechanism of the eye compensates perfectly.

In reference to the major psychosis (insanities) he is emphatic in stating that eye defects do not act even as a contributing cause.

Cutler, in discussing migraine and sick headache, asserts that there are many sick headaches, some of these occur periodically and can only be differentiated from migraine in that they obviously follow some peripheral irritation. Hence, sick headache is often a neurosis of ocular origin. True migraine is inseparable from a neuropathic constitution, but Cutler protests against the attitude of accepting the visitations as inevitable and limiting the treatment to the attacks. He declares that as our knowledge of these cases is developed, hereditary migraine will be recognized as a reflex neurosis, consisting of an unstable organism excited by certain peripheral strains which themselves form the hereditary influences.

It will be seen that Cutler, while not admitting that eyestrain is the principal cause of migraine, insists that a peripheral irritant is the necessary factor. This view will stimulate the physician to greater care in examining the patient.

Sachs, in discussing the relation of epilepsy, chorea and other motor disturbances of the nervous system to eye disease, confesses that the dependence of these motor neuroses upon diseases of the eye has been greatly exaggerated. "It is curious that the claim of a relation of ocular affections to epilepsy and chorea is maintained chiefly by American writers, by oculists and pseudo-oculists rather than neurologists." He refers to the Stevens Commission of Investigation, about fifteen years ago, whose results were negative. Dr. Spratling's report on six-eight cases who were given glasses which were fitted by Dr. Gould himself shows that no special benefit accrued to the patients. The theories advocated by these enthusiastic oculists are entirely untenable.

In chorea, also, no benefit can be expected from the use of glasses,

but in "habit spasm," which often resembles chorea, it is well to have the eyes tested and any defect corrected.

The opinion of these eminent neurologists are obviously against the theories of the oculists. Several years ago the gynecologists and neurologists had a similar discussion and with similar results. The truth in regard to the relationship of nervous disease and other disease is still obscure.

DAYLIGHT AND MALARIA.

It will be recalled that about two years ago Dr. A. F. A. King advanced the very ingenious hypothesis that sporulation of the plasmodia malariae in the blood can take place only under the influence of light, especially red light. In other words, the parasite of malaria, like some other forms of life, needs light in which to grow, and it is the red light which promotes its vital processes, while violet light inhibits them. He presented quite an array of arguments which more or less substantiate his theory. Among these we may mention the increase of malarial attacks in clear weather, the occurrence of the chill almost always in daytime, the greater prevalence of malaria in climates which have much sunlight, the comparative immunity of the dark races, etc. Moreover, King suggested that the destructive effect of quinin on the plasmodia may be due to its fluorescence, which produces violet rays in the blood and thus destroys the growth of the micro-organism. In support of this he pointed out that other substances that have a fluorescent quality or which render the blood bluish have an antiperiodic effect, *e.g.*, methylen blue. And here we venture to suggest, parenthetically, the alleged value of acetanilid in malaria may find its explanation in its rendering the blood violet by the production of methemaglobin.

This interesting topic has recently been discussed by Busck, of the Finsen Medical Light Institute of Copenhagen (*Am. Jour. Med. Sciences*, July, 1904), and while he takes exceptions to many of the arguments advanced by King, and doubts that red light is necessary for the proliferation of the plasmodia, he strongly objects to the treatment suggested by King, that is, placing the patient in a dark room to prevent the light from aiding the growth of the plasmodia. On the contrary, he recommends that patients be treated with sun-baths or

electric light-baths, in addition to quinin. He recalls the work of Tappeiner and his pupils who investigated the poisonous effect of various fluorescent fluids in light and darkness, respectively. It was found that the destructive power of these fluids was enormously increased by light. He believes that antiperiodics have the power to make the plasmodia sensitive, so that they are destroyed or weakened under the effect of daylight. The important conclusion from this is that daylight can increase the favorable effect of the quinin preparations upon malarial patients.

Now, this subject needs thorough clinical investigation. If this hypothesis is true an important point is gained. We must cinchonize our malarial patients during the day and put them in a light place with little garments, or expose them to direct sunlight. It will be no use to give quinin at night. Let us hear from those who have many malarial patients.

THE DOCTOR AND THE PATENT-MEDICINE TRADE.

The *Journal of the American Medical Association* reprints in its editorial columns on July 16, 1904, part of a letter to *Printer's Ink* on the present activity of the United States Postoffice Department in suppressing objectionable advertisements in the secular press, particularly advertisements of a quasi-medical character. The *Journal* makes no comments on the views of the writer, although these views suggest most unflattering reflections. The writer is a druggist doing a large prescription business, and he believes that the patent medicine business will hold its own for years to come. Three-fourths of the physicians' prescriptions coming to his own pharmacy, he says, are for proprietary remedies. He has three skilled pharmacists in his employ, but 75 per cent of his prescriptions could be just as well filled by a soda-water clerk. The patent medicine of the future, he says, will be advertised only to the doctor. "Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies." All of us are aware that extremely few nostrums are patented nowadays, and many of us suspected the proprietary remedy to be an old offender with a new alias.

Some members of the profession will be vastly interested in this druggist's testimony to the particular adaptability of the physician to

tout for nostrum vendors. He says: "For one physician capable of prescribing the precise medicinal agent needed by each individual patient there are at least five who prescribe these proprietaries." The writer's statistics are perhaps not exact. If he had said that a majority of physicians habitually prescribe proprietaries in preference to carefully-considered formulæ no one would call for a division on the question, but when he says that but 16 per cent of practicing physicians are "capable" of prescribing precisely the needed agent, those who are responsible for the qualifications of present-day physicians ought for dignity's sake to make a protest. Perhaps the pharmacist might concede the ability of 20 per cent to write good formulæ, and, being pressed heavily, he might allow that another 30 per cent can prescribe accurately, but do not. Further than this it would probably be unwise to contend, for certain it is that a majority of prescriptions at the present time call for proprietary remedies. Perhaps this is only another way of saying that one-half of the prescriptions written are wholly unnecessary. There is a kind of profit for the patient of the present generation and a sort of economy for the physician in the hand-me-down pharmacy. Why should physician, pharmacist or patient spend time, skill or fortitude on "tonics" and "builders?" It is not certain that he is the laziest or least capable man who prescribes a "builder" in the original bottle. It is a bit wearying to contend against the popular demand for "builders." The "original-bottle" prescriber is the very best friend of the drug-store man. In this way, he says, the names of the "remedies" (remedies, mind you) "get abroad to the general public, and I have no hesitancy in saying that for every bottle sent out of our prescription department we sell six over the counter without prescription." Contemplate these statistics! Eighty-four per cent of physicians' prescriptions are compounded in the druggist's sales to six times their original number. The pecuniary results to the physician are 2 1/2 per cent of instances in which he has a right to a fee and may get it, 14 per cent of instances in which he may get a fee not certainly due him, and 83 per cent of instances in which there is no graft.

The outcome of the present crusade against patent medicines promises to be that the advertising will all be done through the doctors. "The medical papers will reap the harvest, and the physician himself, always so loud in the denunciation of patent medicines, will

be the most important medium of advertising at the command of the proprietary manufacturer. In fact, he is that to-day."

Very nearly true are the observations of this correspondent of *Printer's Ink*, and perhaps his presage of a harvest to medical journals may come to pass.—Editorial in the *Maryland Medical Journal*.

BILHARZIASIS.

By E. A. BABLER, M.D., St. Louis.

This parasitic disease, discovered by Bilharz, is common in Egypt and South Africa. Very recently a few cases have presented in New York, Brooklyn and other seaport cities of America.

It is quite essential that the disease be recognized early. Dr. Wilson reports a case in a patient who had not resided abroad. The organisms were accurately demonstrated in the blood from the left lung, stomach, lower bowel, probably from the pelvis of the left kidney, from the peripheral circulation, in the urine, and fluid from a cyst in communication with the urinary bladder. The patient had suffered from frequent, excessive hemorrhage for many years.

The male is about half an inch in length—a unisexual trematode worm, rather flattened, acquires a cylindrical appearance from thinned lateral margins of the body being infolded ventrally so as to overlap and form a sort of channel for the reception of the female during and after copulation. The female is longer and thinner than the male. The eggs or ova are $1/160$ of an inch in length and pointed at one end, which is provided with a short, sharp spine terminal. The outer layer of the ova is tough and hard, being keratin; inside of this the yolk segments and develops into a ciliated embryo; the shell is now ruptured and the free ciliated swimming worm passes into an intermediate host, changing into the cercaria before being acquired by man. These worms are found in the water and in the soil. These parasites gain entrance through the drinking water, the rectum, vagina, urethra and skin abrasions. No organs are exempt from their invasion. The tissues showing the most serious pathologic changes are the rectum, lower colon and uropoietic system. It is claimed that the lymph stream carries the ova to the various parts of the human body.

Rankin (*Brooklyn Med. Jour.*, July, 1904) calls attention to the disease. He believes that the first, slightest and most simple change

in the vesical mucosa consists of spots of hyperemia. Small hemorrhagic extravasation occurs, inducing a puffy, swollen condition. These areas are often covered with viscid mucus or with a grayish-yellow exudation. The entire vesical mucosa may exhibit marked injection and ecchymosis, but this seldom occurs. At a later stage of the disease are found grayish yellow or dull-white elevations of the mucous membrane mingled with many spots of pigment. Sometimes there are smooth, leather-like coatings beneath the mucosa that appear as though they had been soaked in alcohol. The coating may be friable, presenting a fine *débris* and permeated with urinary salts or a firm sand, consisting of egg and egg-shell which can not be removed without destroying the mucosa. All of these changes are attributable to extravasation in inflammatory changes induced by the distoma invading the smaller branches of the veins and there depositing their ova, and the subsequent protrusion of the egg from the ruptured vessels. Excrescences of a heaped-up appearance, or vegetations of a yellowish sanguineous ecchymosed character may often be found on the vesical mucosa. They are slightly raised, wart-shaped or fungoid, the top split resembling condyloma, or shaped like a cockscomb or a raspberry, the base being somewhat restricted.

The blood shows a slight leukocytosis, the hemoglobin and number of red cells remain unchanged. The percentage of coarse-grained eosinophile leukocytes is, with very few exceptions, much above the normal. This increase goes hand-in hand with a proportional diminution in the polymorphonuclear leukocytes.

If the large mononuclear lymphocytes are increased there is also present an associated diminution of the lymphocyte.

Rankin finds that the disease is more severe in those advanced in life. In the young the symptoms may be very slight. Usually the disease extends over a period of from two to ten years.

The parasites induce an inflammation wherever they lodge; changing the glandular structures into fibrous tissue. The normal elements of the parts attacked may show great overgrowth; polypi and growths presenting clinical characteristics of malignant disease may develop.

It is worthy of note, that many of these cases suffering from the parasites develop and die of intercurrent cancer of the bladder and rectum, that may be either of sarcomatous or carcinomatous variety. This fact requires more research to fully elucidate.

The symptoms first complained of are malaise, rachalgia and pain referable to the bladder or rectum. The rectum may discharge a viscid yellow or greenish yellow mucus, often tinged with blood.

The tenesmus is persistent and severe, and the rectum may be prolapsed; the mucosa is congested and infiltrated, while here and there over the surface may be found numerous small ulcers or small polypi containing worms.

Perineal fistulæ or ischeo-rectal abscesses may be found present. The sigmoid is frequently so thickened as to be distinctly palpated in the iliac fossa, but the disease rarely extends above the descending colon, although ova have been found in the small intestines.

The mesentery is frequently thickened and inflamed by the eggs of the distomum that find their way there through the lymph vessels.

The parasites are easily found and their presence confirms the diagnosis.

In the uropoietic system the lesions are most serious and the first symptoms observed may be a slight urethral discharge, or the presence of blood after micturition, which later is followed by a sharp pain.

The first thing noted may be a change in the color of the urine, it becomes dark or slightly red. The roof or floor of the urethra may become pierced by ulceration, which will lead to infection and pus, and later may burrow for some distance.

The bladder symptoms are those of acute or chronic cystitis. Hydro- or pyonephrosis may follow the obstructed and inflammatory condition.

EDITORIAL COMMENT.

The Salt Solutions.

There still exists much misunderstanding in the terms normal salt solution and decinormal salt solutions when applied to the solutions used for hypodermic or intravenous injection. This solution is usually 0.6 to 0.8 per cent and as has been suggested, the name physiological solution is more appropriate, although the term isotonic solution would not seem to be misleading when spoken of in connection with the fluids of the body.

A normal solution, speaking from the standpoint of the chemist,

contains in each liter sufficient of a reagent to unite with or replace one gram of hydrogen. Since sodium is monovalent, then the amount of sodium chlorid needed to make a normal solution equals its molecular weight in grams dissolved in a little water.

Now, since the atomic weight of sodium is 22.8 and that of chlorine is 35.2 (Stoas), the molecular weight of NaCl would be 58. If 58 grams are dissolved in 1000 cc. (one liter) gives 5.8 per cent, which equals the normal solution. A decinormal solution would then be 0.58 per cent, that is $1/10$ of the normal percentage. This is very near the physiologic salt solution. It must be remembered, however, that the decinormal salt solution is slightly hypotonic, consequently these chemical solutions have nothing to do with physiologic solution and the names should not be used.

The Colon-Flushing Habit.

The use of clysters as a means of removing putrefactive products from the colon comes to the forefront as a fad periodically. No doubt it does good, and as a remedial measure used in selected cases it is invaluable. We explain its beneficial results in different terms at present than in 1753 when Kampf promulgated his Doctrine of Infarctus. "By infarctus Kampf understood impacted feces, which he thought originated in the humors of the body, portal vessels and intestines; he recognized two kinds—the black bilious and mucous. From this theory a wide-spread clyster fashion developed, and lords and ladies vied with each other in belaboring their infarcti and in administering enemata."

About ten years ago A. Wilford Hall sold a pamphlet—the price of which was \$3.00, we believe, which contained the description of a universal panacea—flushing of the colon. The efficacy of this therapeutic measure was attested by hundreds of testimonials and, no doubt, Dr. Hall made money out of it.

This craze comes up again and again. We do not decry its value, but that through its use "two thirds of the diseases to which flesh is but has no need to be heir may be escaped and eliminated," as Clements (*Med. Rev. of Rev.*) recently has written, is the voice of an enthusiast, and not the scientific investigator.

Surgical Scarlatina.

"There is, as yet, no convincing proof in the literature that surgical scarlatina is anything more than scarlet fever in the wounded."

These are the concluding words of a critical study of the evidence upon which various writers have based the existence of a surgical infection more or less resembling scarlet fever. While wound infections may produce a variety of exanthems most of these are not scarlet fever. Typical scarlet fever may occur in the wounded, but it is probably contracted in the ordinary way, and the wound with its resulting systemic results is only a predisposing cause. No doubt, many cases of so called surgical fever were really erythema scarlatinaform.

The Dysentery Group.

We have previously called attention to the numerous types or strains of the dysentery bacillus which make the clinical investigation of this micro organism in the stools of infants exceedingly difficult. Duval, before the American Medical Association described another type which, while resembling the fermenters of mannite, differ from the Flexner type in that it splits lactose and produces a second marked change in neutral litmus milk, that is reddens it then changes it to a blue color after 48 hours, after which the litmus milk is again reddened. In the agglutination reaction also it differs slightly from the Flexner type and is strongly agglutinated by typhoid serum. The bacillus was taken from the mucous membrane of a fatal case of dysentery in a man.

Suppression of Malaria.

Malaria is one disease that promises to go out of existence in the near future under modern methods of prophylaxis; and while Koch and his pupils have laid stress on the general administration of quinin as a prophylactic measure, that is, killing the plasmodia, others have paid most attention to the mosquito. This latter method has been discredited by Koch, but its success has been recently exemplified in Ismailia, a town on the Suez Canal. Measures against the mosquito succeeded in making the anopheles scarce and the number of cases of malaria have fallen from 2000 to 200 annually. The hope is expressed that the disease will be entirely eradicated.

Burroughs on Animal Instinct.

It is interesting to note the opinion of this distinguished naturalist on the mooted subject of animal instinct. In a recent number of *Harper's Magazine*, he declares that while animals have a very keen perception they lack the power of reflection and live only in and through their senses. This is an old observation, by the way, and adds nothing to the physiology of animals. He does not, as might be expected, draw a hard and fast line between animal and human psychology and admits that animal instinct is often modified by intelligence.

Physicians and Alcohol Prescribing.

The *Literary Digest* gives space to the reply made by *The Hospital* to an attack in the *London Graphic* on the medical profession by a woman, who accuses the medical profession of prescribing alcohol in some form and thus encouraging the alcoholic habit. The physician often prescribes drugs in alcoholic menstruum but this is usually too small in quantity to have any therapeutic effect. Many of the tonics have alcohol, but these are prescribed for definite symptoms and not as a panacea for all human ills. On the whole, physicians are very slow in prescribing a general course of alcoholic treatment.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Myelopathic Albumosuria.

Meltzer (*Med. Rec.*, June 18, 1904). This disease, so far as Meltzer knows, has never been the subject of discussion in New York. Although the first case was described over fifty years ago, there are at present not more than thirty cases on record. The essential clinical points of the disease are: Pain of the bones, especially those of the trunk, the presence of Bence Jones' albumose in the urine, and a more or less rapid decline leading invariably to a fatal termination. The occurrence of the albumose in the urine is pathognomonic for this disease. With this knowledge in mind such cases will not escape recognition by the careful physician.

As to diagnosis.—Myeloma and the presence of albumose in the urine belong together. A few cases have had complications—febrile disease with jaundice, myxedema, and pernicious anemia. In some cases there were swelling of the bones, spontaneous fractures and considerable deformity. Nervous symptoms like paralysis and anesthesia of circumscribed parts have been mentioned by many observers.

The following procedures will bring out rapidly and easily the essential characteristics of albumose in the urine. Addition of nitric acid to some of the urine in a test-tube will cause a bulky precipitate of albumin. This precipitate redissolves on being heated to the boiling temperature—coagulated albumin is not redissolved again by heat, on the contrary it becomes more compact. When urine containing the Bence Jones' albumose is heated up slowly it will be noticed that at a comparatively low temperature of about 130°F. the urine becomes turbid and coagulates when heated a little more. However, when the temperature approaches the boiling point the coagulum dissolves again to a great extent, the urine remaining only slightly turbid. When cooled, a heavy precipitate reappears, to disappear again on reheating the urine to the boiling point.

Malaria.—Diagnosis.

Crismond (*New Albany Med. Herald*, June, 1904). The diagnosis of malarial fevers mainly depends upon the result of the examination of the blood. The more doubtful the case the more it resembles some other affection, the more necessary is a resort to this means of attaining a positive conclusion.

Celli and Guarniere obtained excellent stained specimens of the parasite in fresh condition, by mixing the blood with ascitic fluid deeply tinged with methylen-blue. Dissolve the methylen-blue in the ascitic fluid and strain. It may be prepared thus.—Methylen blue is dissolved in normal saline solution until the fluid is somewhat deeply colored. This solution is then filtered, sterilized and set apart in small quantities in thoroughly sterilized test tubes. The point of the finger is then carefully cleaned, a drop of the staining fluid applied to it and through this the finger is pricked with a needle. The flowing blood mixed with the staining fluid is brought in contact with a cover glass and this is placed preparation side downward upon a slide and examined. The preparation must be spread in a very thin layer and

it is, therefore, necessary to guard against evaporation; this may be done by sealing the edge of the cover-glass with paraffin wax.

Determination of Renal Capability.

Churchman (*Maryland Med. Jour.*, July, 1904). Whatever be the value of functional diagnosis, it is obvious that the need for careful preliminary urinalysis, made in the ordinary way, is by no means done away with. The question of determination of urea by the Doremus apparatus having any clinical value is answered by the statement that the ordinary Doremus procedure does not measure the urea at all, or, rather, measures a good deal more than urea—probably as much as the total nitrogen of the urine.

The routine "urea" estimation, then does not measure urea. It has no value as a method of precision unless continued over a relatively long period. The problem may be attacked in another way—by introducing some foreign substance, pholoridzin. This is made into a solution with equal parts of sodium carbonate and 5 mg. of this liquid (10 mg. for very large patients) are injected subcutaneously. The bladder is previously emptied. In *normal* cases sugar appears in the urine in a half hour, the two kidneys react alike to the drug and the quantity of sugar does not fall much above or below 3 per cent.

Average Results:

Normal Kidneys.—At the end of first half-hour about 45 per cent sugar; at the end of second half-hour about 39 per cent sugar.

Diseased Kidneys.—At the end of first half hour about 23 per cent sugar; at the end of second half-hour about 23 per cent sugar.

Methyl-blue is also used; the freezing point likewise. Churchman thinks cryoscopy offers most.

Nephritis of Infants.

On account of the difficulty encountered in securing specimens the subject of nephritis in infants has received very little attention at the hands of medical men, and the literature on the subject is therefore meager.

Frey and Martin (*Arch. Ped.*, January, 1904) give the results of urine examinations of 100 marasmic infants under 3 months of age. The average specific gravity of the urine was 1006; the highest 1028 and the lowest 1001. The urine was acid in 64 per cent of the specimens, was neutral in 36 per cent and alkaline in none. Albumin was

found in 19 cases, of which 6 were under 10 days old. Of the 19 case, 17 had casts, hyalin or granular. A few epithelial casts were noted, but no blood casts; 14 cases had casts without albumin.

In 10 of the cases albumin was present and casts were present in 1 specimen only. Uric acid was abundant in 26 of the cases; of these 14 had albumin and casts. Casts were present in 23 of the uric acid cases.

Of the 26 cases with large amounts of uric acid in the urine 19 died. In 7 of the cases that died autopsies were held and uric acid intarcts and parenchymatous nephritis were present in all. In 3 cases an acute interstitial nephritis was found.

The authors conclude that there seems to be a relationship between an increase in uric acid in the urine of infants and the development of nephritis. They further conclude that marasmus alone could not have accounted for the nephritis in some of the cases.—*N. W. Lancet*.

Diagnosis of Non-Valvular Heart-Sound.

Cross (*Northwestern Lancet*, June 15, 1904). If the attempt be made to contrast valvular and non-valvular sounds heard over the heart, it is of little service in diagnosis, because, while certain qualities may be predicated of valvular sounds they are duplicated by some valvular sounds which can not by this means be distinguished. Accidental murmurs are, however, less likely to be transmitted. Their area of audibility is less. The quality of the sound is, as a rule, soft and blowing rather than hard; they are heard most frequently over the base but may be at the apex; they change in intensity and at times disappear, with lessening of excitement, or change with the position of the patient, to a greater degree than do valvular sounds. The presence of the "humming-top" sound in the bulb of the jugular often determines the diagnosis of a hemic murmur over the base of the heart. A cardiorespiratory sound may cease when the patient holds his breath, but nothing is proven if the murmur continues under this condition.

There are no acoustic qualities of accidental murmurs by which they can be distinguished from organic lesions. There is truth in what Stokes said long ago: "The facility of making a correct diagnosis between functional and organic disease of the heart is not so great as modern writers lead us to believe, and we more often arrive at a just conclusion by instinctive skill, the result of experience and judgment, than by communicable rules of diagnosis."

Spotted Fever in Oregon.

It will be remembered that this disease was only discovered about five or six years ago, and the attention of the medical world was first called to it by a paper of Dr. E. E. Maxey, published in this Journal, so that we may be pardoned for taking a somewhat personal interest in the development of our knowledge of the disease.

In the severer form it has a very high mortality, 70 or 80 per cent of the cases proving fatal, but since these cases have been reported we have been able to secure information as to the existence of a similar disease as to spots, typhoid like course, great depression, fever and curious bone and muscle aches, almost resembling dengue, which appears to be more or less prevalent throughout the western slope of the intermountain plateau from British Columbia on the north to Nevada, California and Northern Texas on the south.

The disease is due to a hematozoon attacking the red blood cells very similar to that of malaria, which is conveyed by the bite of a tick, whose normal habitat is the skin of the small gopher, or *Spermophile*. The organism has been demonstrated in the blood of the patients and also in the blood of the *Spermophile*, and in many cases there is a clear history or trace of tick bite, though it has not been discovered in the normal tick.

A history of tick bite was present in most of Dr. Marsden's cases, but was absent in the Hood River case. One step in advance has been secured already in the Hood River case, and that is the identification of the parasite in the blood, in one of the milder or nonfatal forms. From our present knowledge of the subject its study promises to be exceedingly interesting, and looks as if we had to do with the transference of the normal parasite or symbiote of one of the lower animals to the blood of the human being with serious and in some cases fatal results.—Extract from an editorial in the *Medical Sentinel*, July, 1904.

Erythema Nodosum in Children.

Dr. Isaac A. Abt, of Chicago, read this paper. He stated that erythema nodosum was a disease of childhood which was of interest to the dermatologist as well as to the practitioner who treated children. Modern dermatologists differ among themselves as to the relation of erythema multiforme and erythema nodosum. The disease undoubtedly belonged to or was to be classified as one of the exanthematous

fevers. In spite of the typical course of the prodromata and complications—among them conjunctivitis, pharyngitis, joint lesions and, more rarely, endo- or pericarditis, Lewin was inclined to believe that the disease occurred on an angioneurotic basis. The eruption might occur after one of the infectious diseases, like rheumatism or malaria, or might arise in the midst of perfect health. The patients were for the most part children, ranging in age from 2 to 14 years. The disease usually began with vague pains, gastrointestinal disturbance and fever. The temperature was usually continuous and the disease rarely ran its course without some fever.

The eruption generally occurred in the form of a node like swelling, most frequently located on the shin bones, though in some cases on the forearms and thighs, rarely on the tongue and face. The lesions were round or oval in shape and varied in size from that of a walnut to a hen's egg. They were at first painful and tender to the touch, and tense and firm in consistence. They did not produce itching nor tend to suppurate. They were of a bright-red color and the overlying skin was tense and glossy as though it had been polished. These nodules remained for a day or two, when the brilliant redness disappeared and was replaced by a dusky-red or bluish color. In their involution the lesions resembled those observed in a bruise, and it might take a week or ten days for a single nodule to go through its cycle.

Dr. David Lieberthal, of Chicago, said that these cases of erythema nodosum were observed more frequently by the pediatricist than by the dermatologist. The differentiation between the two affections, erythema nodosum and erythema multiforme, was very important, and it was surprising that there were some who still regarded them as identical.—*Med. Rec.*, June 11, 1904.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Is Iodid of Potassium a Specific in Lobar Pneumonia?

Altshul (*Med. Record*, March 26, 1904), in sixty-two cases of his own and three times that number in those of colleagues, treated at his request, found a mortality of but 1 per cent., as against the usual

mortality of from 20 to 40 per cent. He argues that when a drug which is rapidly absorbed is well borne in larger doses than when given in health, it is doing some work, as seen in the tolerance for quinin in malaria, iron in anemia, and morphin in the presence of pain, etc.

The effects of potassium iodid are: 1, Antiseptic and antizymotic; 2, increased activity of lymphatic system and absorption of inflammatory products; 3, increased alkalinity and lowered specific gravity of the blood; 4, vaso dilator action and thus cardiac stimulation; 5, direct cardiac stimulation through its base and by increasing blood to heart; 6, diuretic; 7, diaphoretic; 8, antipyretic; 9, respiratory sedative.

In lobar pneumonia we find: 1, toxemia; 2, diminished respiratory surface in the lung; 3, relative hyperleucocytosis, with reduced alkalinity and increased viscosity of the blood; 4, venous engorgement and laboring heart, with over distension of right heart and depletion of left, as well as badly impaired nerve power (Douglas Powell); 5, impaired action of kidneys and glandular system; 6, pyrexia; 7, cough.

Altschul shows how each of these conditions is affected by the physiological action of the drug and then from his clinical experience concludes the following:

1. In none of the cases was there a crisis, the invariable termination being by lysis (ordinarily 80 per cent terminate by crisis).
2. The duration of the disease is not shortened.
3. The temperature, even in apical cases, was never high, rarely exceeding 103°, never above 104°, when treatment was commenced early.
4. Complications, as endocarditis, pericarditis, edema, embolism, etc., were never met with.
5. Cerebral symptoms, headache, etc., were prevented if treatment was begun early and disappeared if already present.
6. In all cases the patient felt more comfortable and seemed less ill than usual.

An initial dose of 10 to 15 grains, increased by 5 or 10 grains, according to severity; and given every two or three hours day night throughout the course of the disease is administered. Should there be irregularity of the heart, strychnia 1/60 to 1/40 grain is given every four or six hours until the heart becomes regular. The iodid is given

in 50 per cent solution in milk. When gastric disturbances occur, A. gives aromatic spirits of ammonia, which increases tolerance to the drug, according to a suggestion of Sir James Paget. Our guide to dosage must be the effect upon the heart.

Lumbago.

In a recent lecture reported in the *British Medical Journal*, Sir William Powers dealt with the above subject, and expressed some views concerning its nature and ascribed the peculiarities to the fact that lumbago frequently extends by direct continuity through the fibrous tissue of the fascia, to the sacrum and ileum, and quite frequently to the sciatic nerve; that in the nature of the pain and general characters it is like unto pleurodynia, brachial and deltoid rheumatism and torticollis, which likewise are capable of similar extension, the conclusion is reached that these conditions are in reality inflammatory affections of the connective tissue basis of the muscles and not of the muscle fibers themselves. In this way its extension by continuity can be readily accounted for. It is, according to the writer, a "fibrositis." Speaking of the etiology, he says: "I need hardly remind you that muscular rheumatism is more common in the second half of life than in the first, while the opposite is true of acute articular form. It is currently associated with gout, and truth of the belief is soon impressed on the practitioner. But it is 'gout with a difference.' It may occur in those who are gouty in the common sense of the word, but some of the most severe cases I have seen, especially of the brachial form, have been in those who have inherited the tendency to gout but have not merited its development. The patients have been elderly ladies of blameless habits and elderly abstemious clergymen, members of conspicuously gouty families. You know the distinction that has been drawn by Mr. Hutchinson and others in the constitutional forms assumed by the diathesis. But all are connected. One notable link between these varied affections is that most cases of rheumatic fever in the young are in the children of gouty parents."

Attention is drawn to the distribution of the pain: "This rheumatic fibrositis is seldom strictly symmetrical. Even in the lumbar and sacral tissues, in which its tendency to affect both sides is greatest it is generally more on one side than on the other, and manifests its predominance by spreading to the sciatic nerve only on the side on which it is more severe. In the arm it is rare for the muscles on both

sides to suffer, and when they do it is very seldom in equal degree."

In the matter of treatment Sir William Powers says: "The general treatment of these forms of rheumatic fibrositis is, I doubt not, sufficiently familiar to you. But there are two measures the beneficial influence of which am sure is not so geneally recognized as it should be. One is diaphoresis, the other is rest. The value of free perspiration has some popular recognition. There is a strong impression that muscular rheumatism may be cut short at its onset by active exercise. The usual result of acting on the belief is a serious increase in the affection, but there are some cases in which it does good. They are cases in which the exercise does not involve much use of the affected muscles, and in which it causes copious perspiration. This seems to relieve the condition of the blood, and at the very onset may enable the morbid state quickly to pass away. If the pain of commencing lumbago is not felt on standing or walking, and a long walk is taken in a thick overcoat, any chill being avoided, the lumbago may be gone next day. A Turkish bath is equally beneficial and safer. But it is only at the onset that this relief to the blood state is effective. Even after two or three days the muscular fibrositis seems to become so established that it cannot be speedily influenced by diaphoresis. Above all things, rest is that which these painful muscles need. However, this sensitiveness is produced it is certainly maintained by every influence which excites pain. We can understand this; all irritation of the sensory nerves increases the vascular disturbance which we must assume in the early stage and sensitiveness of the nerve endings is maintained by their stimulation. In the brachial form, adequate rest to the muscles is very seldom secured early, when its importance is so great. Slight movements may entail only a little pain, but doing so they inevitably increase the morbid state. In every case of the kind the arm should be carried in a sling and the clothes should be arranged to make dressing and undressing easy. Ladies should be sternly forbidden to do up their back hair, a process which seems to involve peculiar strain on the shoulder muscles, which is kept for some time in a form to which they are unaccustomed. The use of a sling is seldom adopted early enough. It has advantages beyond the direct rest to the arm and the support to the upper arm which it affords, in the obtrusive evidence of enforced rest which it presents. This saves the patient from many undesirable movements. In the early stage frequent hot fomentations are certainly useful, and so is encasement in a

thin layer of cotton-wool or lint, over which oiled silk or some light impermeable material is placed. It seems to do good by keeping the skin warm and moist. Neither massage nor electricity should be used at the beginning; afterward very gentle upward masssge is good, but it should never be such as to cause discomfort. In the latter stage, if any spontaneous aching is felt, it may often be relieved by extremely gentle applications of electricity."

Special importance is attached to the regular use of concentrated saline aperients on an empty stomach. The salicylates, while not so useful as in true rheumatism, may be used in the earlier stages, but, says the writer: "I think that most good is obtained in the early stage from nitrous ether, citrate of lithia, and colchicum, with which small doses of perchlorid of mercury may be combined if the affection is of considerable intensity."—*Pac. Med. Jour.*

The Treatment of Serous Effusions.

Barr (*British Med. Jour.*, March 19, 1904), describes what is evidently a new method of treating serous effusions. The idea occurred to him to inject 1 fluid dram of adrenalin chlorid solution into the pleural sac, in a case of abdominal cancer extending to the pleura, after the aspiration of a large quantity of bloody serum, the object of the injection being to lessen the secretion. There was no further secretion, consequently no further tapping and the patient spent the remainder of her life in perfect comfort so far as her chest was concerned.

This treatment was extended to cases of ascites due to hepatic cirrhosis in which marked results were not expected. However, the rapidity of secretion was diminished and no ill effects were noted, the quantity of adrenalin solution used varying from 2 to 3 fluid drams.

In a case of pericarditis with effusion in a lad, 19 fluid ounces of serum was withdrawn from the pericardium, but a reaccumulation rapidly followed. The patient's condition becoming critical the paracentesis was repeated, 20 ounces of fluid being withdrawn with immediate improvement in the quality of the pulse. Forty minims of solution adrenalin chlorid, 1/1000, was injected into the pericardium. The pulse at the wrist disappeared, the boy became of an ashy leaden hue and had an anxious expression. Immediately nitroglycerin and atropin were administered and the boy quickly rallied. No further tapping

was required. The same patient had a subsequent attack of left pleurisy with effusion. Ten fluid ounces of serum was withdrawn from the chest and one fluid dram of adrenalin chlorid solution was injected. There was no reaccumulation.

In a case of tuberculous peritonitis and ascites 200 fluid ounces of serum was withdrawn and two fluid drams of solution adrenalin chlorid introduced into the peritoneal cavity, with four pints of aseptic air (to prevent adhesions). Thirteen days later 237 fluid ounces of serum was withdrawn and two fluid drams of adrenalin chlorid solution and two pints of air were injected. Upon a third occasion, 11 days later, 196 fluid ounces of serum was obtained by tapping, and three fluid drams of adrenalin chlorid solution and four pints of sterile air were injected. No reaccumulation of fluid occurred.

A female child of 7 years was the next patient. One pint of fluid was withdrawn from her pleural cavity and one fluid dram of adrenalin chlorid solution and half a pint of sterile air were injected. Though it was highly probable that the pleurisy was tuberculous there was no reaccumulation of fluid and the patient recovered.

Diet of Bread and Fruit and its Effects Upon High Blood-Pressure, Dropsy and Obesity.

It has been found that a healthy person weighing about 140 pounds will require to eat 28 ounces of foodstuffs a day and of this 21 ounces may be taken as breadstuffs and 7 ounces as dried fruits. A. Haig (*Med. Rec.*, October 31, 1903) shows what an elaborate and savory meal can be gotten up from breadstuffs, fruits and vegetables while, on the other hand, a more simple and easily obtained meal could hardly be desired. There is no doubt but what a large number of the chronic ailments which we are called upon to relieve are due to over-eating, especially when a proteid diet is freely indulged in. The chief advantage of bread and fruit diet is seen in the collemic and high blood-pressure group of uric acid food poisonings. Such used to be called diseases and were reckoned under the names of headache, epilepsy, neuralgia, asthma, Bright's disease, dropsy and obesity. The great point in the relief of these troubles is the lowering of the blood-pressure. By cutting down the fluids as much as possible and feeding on breadstuffs and fruit, a blood pressure of 150 to 160 mm. of mercury can be reduced in a week or two to 120 mm. of mercury with a correspondingly large improvement in all forms of food poisoning.

The washing out plan of treatment by giving large quantities of water to drink usually fails; for it does not increase the elimination of uric acid and furthermore maintains the high blood-pressure which is an important causative factor in the conditions. In many of these high blood-pressure troubles much good may also be done by temporary but complete abstention from both food and fluid, as this will produce in twelve to twenty-four hours, a fall of from 20 to 40 mm. of mercury in the blood-pressure. — *Med. News*.

Hemoglobin as an Hematinic.

Halliburton (*Brit. Med. Jour.*, April 9, 1904) has conducted a series of experiments upon rats to determine the action of hemoglobin when given by the mouth. He concludes as follows:

Powdered hemoglobin administered to rats leads to an increase in the number of red blood cells and of the amount of their contained hemoglobin.

It is converted in the stomach into acid hematin, which is insoluble and consequently unabsorbed. In the extreme pyloric end of the stomach, however, and in the upper part of the duodenum, acid hematin is rapidly dissolved by the alkaline pancreatic juice, resulting in the formation of alkaline hematin, which is diffusible and readily absorbed, probably directly into the blood, as such.

The spleen acts as an organ for storage of the unused excess.

Results of Organotherapy in Addison's Disease.

Cases of Addison's disease are so uncommon that it seldom occurs that any one physician sees a sufficient number of these patients to make his conclusions in regard to the value of treatment of any avail. E. W. Adams (*The Practitioner*, October, 1903) has collected 97 cases from the English, French and German literature, all of which have been treated for a time at least with some form of extract from the suprarenal gland. Many of these were treated but a short time, and some of them were practically moribund when the treatment was begun. Furthermore, it was, of course, impossible to be certain of the numerous sources from which they were taken, and also because the diagnosis is frequently a very difficulty matter even to the most skilled. Autopsy records of a considerable number were also obtained to confirm the diagnosis whenever possible. The results show that 7 cases were made distinctly worse by treatment; 43 cases derived no

real benefit; 31 cases showed marked improvement, and 16 were apparently permanently cured. The best results were obtained by the use of the fresh gland, given by mouth, and the fluid or solid extract given in the same way. Three of suprarenal grafts were all apparently made worse by the operation. It would appear, therefore, that there is a certain class of cases of Addison's disease which derives indubitable benefit from the exhibition of some form of suprarenal substance, though in any given case it still remains impossible to determine its probable response to the treatment. Although the chances of recovery are comparatively slight they are certainly much better with this mode of treatment than with any other.—*Med. News.*

Splenectomy for Banti's Disease.

Osler describes this symptom complex as "a chronic affection, probably an intoxication of unknown origin, characterized by a progressive enlargement of the spleen, which can not be correlated with any known cause, a marked tendency to hemorrhage, particularly from the stomach, and in many cases a terminal stage of cirrhosis of the liver, jaundice and ascites." C. H. Levison (*Annals of Surgery*, November, 1903) relates the interesting history of a case occurring in a young man upon whom he had previously operated for appendicitis and whom, after the development of the characteristic symptoms of Banti's disease, he was able to follow technically for eight months. The blood findings characteristic of Banti's disease are:

1. Oligocythemia, the average number of red cells being 3,500,000.
2. Oligochromia, the low percentage of hemoglobin is fairly constant and is marked by a low color index. In pernicious anemia the contrary obtains.
3. Leucopenia. This is quite constant. The leucocyte count is usually much under 5,000. The red cells in the differential count are of no value.

Levison's summary of his case is as follows:

First, that the disease was preceded by an infectious appendicitis. Second, that there were intervals of perfect health interrupted by profuse bleedings. Third, the exacerbations of temperature and of leucocytosis both indicative of some form of infection. Fourth, slate-colored stools and diarrhea, evidences of a digestive disturbance. Fifth, severe pains between the shoulder blades, enormous quantities of mor-

phin necessary for its relief. Sixth, the spontaneous disappearance of the ascites after a single paracentesis. Seventh, the splenectomy followed by the rapid increase in percentage of hemoglobin. Eighth, the appearance of normoblasts and megaloblasts in the blood subsequent to the splenectomy. Ninth, the rapid regeneration of a very abnormal blood. Tenth, the disappearance of the melanoderma. Eleventh, thrombosis of the veins of the neck. The author concludes that Banti's disease offers a favorable prognosis if operated upon early, death resulting if it be allowed to pass unoperated. — *Med. News.*

Administration of Antipyrin.

Martinet (*Ther. Gaz.*) states that antipyrin should never be given in capsule form, as it is very irritating to the gastric mucous membrane. It is generally so administered because it is cheaper, but in solution it is preferably prescribed. It is recommended given in combination with sodium bicarbonate as follows :

R	Antipyrini	3ss
	Sodii bicarb.....	3j
	Syr. aurantii.....	3iij
	Aq. destil	3xij

M. Sig. — One teaspoonful as indicated.

Antipyrin should always be administered outside the period of digestion, that is, half an hour before meals or one and a half hours after meals.

It is not advisable to administer it hypodermically as it is liable to cause local disturbances. In epistaxis it is of service locally as a hemostatic applied in the following solution :

R	Antipyrini	3ij-x
	Aquæ.....	3xx

M. Sig. — To be applied locally with a swab.

As an ointment in anal fissures it is recommended combined as follows :

R	Cocainæ hydrochlor.....	gr. vijss
	Antipyrini	
	Zinci oxidi.....	aa gr. xxx
	Lanolini	
	Liq. petrolati.....	aa 3ijss

M. Ft. unguentum. Sig. — Apply locally.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of May 5, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. A. H. MEISENBACH reported

Two Unusual Ovarian Cysts,

and presented the specimens (see page 154, this issue).

He also also reported on a case of

Appendicitis, With Presentation of the Appendix.

This specimen I removed yesterday. It was taken from a young man 20 years of age. I saw him Monday evening, in consultation with a doctor from Carondelet. The patient was taken ill on Thursday. Friday he complained of pain in the abdomen and there was some vomiting; there was a passage from the bowel Saturday morning, none since then; he vomited continuously but it was not of fecal character. I found the boy a well-developed muscular fellow, almost six feet tall. He had a temperature of 102°, pulse of 120, and was not suffering very much. Upon making an examination of the abdomen it was comparatively soft, but the most decided feature was the presence of pain and this pain was always in a positive and circumscribed area, at McBurney's point. There was no dullness in the right iliac region. The physician in attendance was inclined to believe there was some kind of obstruction, but from Monday until Friday there was no distention and taking the circumscribed area of pain into consideration, I made up my mind that this boy was suffering from appendicitis. In determining the painful spot instead of using the hand it is best to use the finger; by tapping the finger you can locate the point after the manner of an anesthesiometer. By letting the patient do that themselves they will always touch the

right spot; this boy invariably stopped about McBurney's point. The doctor had been giving something to control the vomiting. I advised a pack, and if there resulted no improvement, an operation.

Tuesday morning he was sent to the hospital, but Dr. Aufderheide was inclined to wait. We gave him castor oil and waited twenty-four hours, at the end of which time he had a stool. His temperature was 100.4° , pulse 86, and there was still that painful spot. His father was there and I told him I thought the best thing to do was to open the abdomen. I operated at 10:30 Wednesday morning. When I opened up the abdomen, making the incision we usually do for appendicitis, I found that the omentum blocked the way into the cavity and obstructed the view, I tore through the omentum to get a good view; in spreading the wound apart the omentum gave way and there, well up, was quite a little pus; this came from where the cecum lies against the iliac fossa; none got into the abdominal cavity for I turned the patient squarely upon the side and protected the abdominal cavity with gauze pads. After it had been thoroughly evacuated I washed out the cavity with salt solution, then packed with gauze; I then turned him over partly on the side to search for the appendix and found it lying upward; alongside the iliac peritoneum; it was very much enlarged, and I had no difficulty in freeing the appendix and bringing it down to the wound so that I could easily excise it. Usually a big appendix is so bound down or so disorganized that is not easily found. The operation was easily done and after the excision of the appendix, in the location of the abscess cavity I packed with iodoform gauze and inserted a tube; the gauze was packed in all directions, shutting off this area that had been involved.

This was one of those cases which are on the borderland, where it is hard to tell what to do—whether to operate or to wait. It was one of those cases in which a man might have waited and the question is whether or not he might have waited to advantage. The adhesions were not tough and the cecum very easily came into the abdominal wound. After the operation I placed the patient in bed with the head elevated and body at an angle of about 23° . With a temperature of 99.6° and pulse still above 100, he complained of no pain and was in fairly good condition, so I have good hopes for him, but he is not out of the woods yet. In these cases, until the third or fourth day is passed we can not say that the patient is out of danger.

Dr. DEUTSCH thought the ovarian cases interesting. They were out of the ordinary because so large a cyst is rarely seen now. While he felt that the first patient was exceedingly lucky in getting into Dr. Meisenbach's hands, yet he felt that it was almost unpardonable to make a mistake between ovarian cyst of such size and pregnancy and he thought the examining physician could not have been well trained in diagnosis.

The second case was also highly interesting, and while the prognosis in such a case is always grave, because of the metastases, yet, there was only one thing for the Doctor to do, that was to remove the growth he found. So far as the appendix case was concerned, he believed the Doctor was right in saying that he would have to wait a few days before saying that his patient was out of danger, for it is always a little dangerous to remove an appendix from a pus sac. It was one of those cases which taxes the judgment of both the surgeon and the general practitioner.

Dr. KANE considered this the most interesting specimen of ovarian cyst he had ever seen. The Doctor was fortunate in having to deal with a cyst of that size that there were so few adhesions. It was a splendid specimen. He had never had to deal with any large ovarian cysts; those that he had to operate on were small but with a good many adhesions. He had seen an interesting case while he was assistant to Dr. Bryson. The patient was a young woman who had recently been married; she had always been healthy and when well weighed about 80 pounds. He saw her eight months after her marriage and found the abdomen much enlarged; she had noticed it about a month after her marriage and it had increased rapidly during the second and third months. A general practitioner was called to see her on account an attack of shortness of breath. The patient was turned over to Dr. Bryson, who operated next day. There was found a par-ovarian tumor with fetus of about five months' development; there were removed a number of cysts from the ovary on the right side; the uterus was one mass of fibromata and showed cystic degeneration. The mass removed weighed about 35 pounds. The woman made an uneventful and perfect recovery.

As regards the specimen of appendix, Dr. Kane hoped he would be pardoned for bringing up a case of pseudoappendicitis he had recently seen. He was called by a general practitioner to see a young

girl, of highly strung nervous temperament, about 17 years of age. She gave a history of having had an attack of appendicitis about a year ago, and said she had been attended by Dr. Murphy, of Chicago, who had made a diagnosis of appendicitis, and whose fee, she said, was \$250. She had a temperature of 101.5° for two days before Dr. Kane saw the case; there were no obstructive symptoms no gastric symptoms, the knees were not flexed and she did not give the symptoms of one suffering from appendicitis giving such a temperature. He made a diagnosis of autointoxication from the intestines. One evening he received a message that she had a temperature of 106° and he was telephoned by the nurse fifteen minutes later that the girl had a temperature of 114° . He hurried to the case and found the girl lying perfectly conscious with a temperature of 98° . He decided the nurse had put the thermometer under the hot-water bag or held it under the hot water spigot. He told her if it occurred again to let him know immediately and she very kindly did so about 12 o'clock that night. He lost no time in reaching his patient and found her pulse between 70 and 80, she did not complain of thirst or of any of the symptoms of fever, but the mercury went to the top of the glass tube.

He wrote the people at Notre Dame, where she had been in school, and found that Dr. Murphy had never seen the girl and had never charged a fee of \$250 for an examination. Her only symptoms are the high temperature and pain in the region of McBurney's point. She has been perfectly miserable for about three weeks, but she will get over the pain, get up and go out and engage in a game of basket ball, then her temperature will run up to 110 to 114° . He had looked up the question of high temperature and found recorded a temperature of 174. The case shows how hysteria will simulate anything.

Another that had interested him was the care with which the Doctor had opened up the abdomen on account of the danger of collapse. He had known of two cases where the abdomen had not been carefully opened and the patient had died of collapse. Not long before he had operated upon an old lady with a very large abdomen and as soon as the least fluid was allowed to run out her pulse would go down. When he cut into the abdomen he found cancer of the liver and cancer of the ovary. He filled the abdomen with salt solution and was very much surprised to see how the fluid was taken up.

Dr. SOPER said he was very much interested in all the cases of Dr. Meisenbach, especially the appendicitis case. In all probability the pus the Doctor found was under the cecum; very likely it belonged to that class of cases in which rupture takes place into the cecum eventually. All physicians see cases in which they hesitate to decide whether to operate or not and then some morning they find their patient without fever and practically well, the pus sack having ruptured into the cecum and the pus drained off in that way. The speaker mentioned a case of a patient who had been in bed two weeks with rather high fever, recovery taking place in this manner; in this case, also, no tumor could be palpated. The pus was found in the stools.

In case of high temperature, he said he would like very much to see that temperature recorded. He and Dr. Falk had attended a case of heat stroke in which the temperature was 109° , the highest temperature they had ever seen recorded by the thermometer; this patient, too, had recovered.

Dr. DEUTSCH suggested that Dr. Kane's case was not one of pseudoappendicitis but rather of pseudothermometer.

Dr. KANE added that he had used every means in his power to to exclude the possibility of error. He had taken the temperature with three different Hicks' thermometers and he was not the only one who had made the observation. One physician had noted a temperature of 106° . The temperature would go up in half a minute. Someone had suggested that the temperature was due to friction of the tongue and Dr. Kane said he would hate to try to wiggle his tongue fast enough to carry the temperature up 114° . He was willing to confess that he had been skeptical, he was from Missouri and had to be shown—and he was shown. He had purchased a volume by Ould and Pyle for the sole purpose of looking up the question of high temperatures, and compared with some of the temperatures recorded his temperature looked like a temperature in the arctic regions. He had found a record of one temperature of 174° . He had observed this temperature not once but many times and had seen the mercury go up to 110° and over—as far as the glass tube would permit. There was no hot-water bag, and there was an ice pack over the seat of the pain.

Replying to a question by Dr. Falk he said the skin was not hot

and the pulse varied from 70 to 80. The girl had been in the habit of carrying a thermometer and taking her own temperature. He would ask her if she felt hot and she would reply that she felt about 99°. He would talk to her for half an hour and her temperature would drop to normal, and he did not think his talk had the effect of a sponge bath, either. The girl was sent home to her mother and the family physician requested to communicate his observations to Dr. Kane. When he does so he will be pleased to let the Society know that somebody else has found that temperature besides himself.

Dr. MEISENBACH, in closing took up the points mentioned by Dr. Deutsch. As to the case of differentiation between pregnancy and cyst, it has happened that many good operators have opened the abdomen expecting to find a tumor in the ovarian region, or possibly, the uterine, and have found it was a pregnant uterus. He added that he had a young woman under his observation who shows a complexity of symptoms that makes him hesitate to formulate a diagnosis. He has examined her time and time again, and still he hesitates. He wished to emphasize the statement so often made, that it is impossible to say what is in the abdomen until the abdomen is opened.

Replying to Dr. Deutsch's remark that he had qualified his statement with the words, "an ovarian cyst of this size," Dr. Meisenbach said that he agreed with Dr. Deutsch that a cyst of such proportions should not have been mistaken for pregnancy, for certainly all the earmarks of pregnancy were lacking. Of course, all diagnosis was a comparative affair. One man would see and hear what another man would not.

In the appendix case, he stated that he did not, as a rule, remove the appendix in a pus sac; in this case he had been governed by the circumstances, and would not have removed it had it not come easily into view and had he not been in entire command of the abdominal cavity. That was the weak point in all cases of appendicitis, but where there is pus sac, if the appendix comes readily into view, if other conditions are favorable, he removes the appendix. Appendix operations are still *sub judice*. The principle underlying all the technical work should be—always be prepared to wall off the abdominal cavity. He had seen a patient who had an attack of appendicitis in November, and who had a second attack the first of March; he saw the patient on March 10th. From the inferior iliac spine midway to

the median line, an area the size of the hand, was dull. Expecting to get into a pus sac, he made the incision a little nearer the spine of iliac than usual. Usually before getting down to the pus sac there will be found an edema of the wall of the abdomen, but in this instance such was not the case and he found that he had cut directly into the peritoneal cavity. He walled off carefully and reached the pus cavity, only to find merely the remains of an old cavity the dullness was due to an exceedingly thickened wall. In this case he did not look for the appendix but merely mopped out the cavity and closed the wound. Whenever he entered the peritoneal cavity and found an abdominal abscess, he walled off the abdomen from the site under consideration, liberated the pus, put in a drainage tube, closed the wound and left the rest to Nature. If, on the other hand, the appendix came easily into view, he removed it. In the majority of cases it was impossible to locate the appendix and he thought it was foolhardy to attempt to remove it under those conditions. Formerly it was thought every appendix must sought for and removed. Another thing was that the case was one of these borderline cases in which, possibly, it would have been better surgery to wait until those adhesions had formed and the abscess cavity walled off. The temperature might have dropped down to normal; high temperature is not always indicative of pus. The position that Ochsner now takes is that in doubtful cases it is better to wait.

Several years ago surgeons operated during the height of the inflammatory condition; this is not good surgery. In those cases that run from two to ten days, in which there is a decided walling off, it would be the better plan to wait, but it is impossible to know that there will be that walling off. What led to the operation in this case was the persistent pain and vomiting.

Dr. DEUTSCH said that he would like to state for the benefit of Dr. Meisenbach that the surgeons in the East are of entirely different opinion. They cut out every appendix. In Mount Sinai Hospital he saw twenty-five appendices cut out in one week. The best men there take out great big strings of appendices, every one of which has come out of a cavity filled with pus, and they claim they get good results.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

Tubercular Meningitis in Adults.

Jackson (*Med. and Surg. Jour.*, May 12, 1904) thinks that the physician must be satisfied if he is able to make a diagnosis as to the organic process present, even though he can not accurately define the exact pathological condition which has caused the organic process to exist in the individual case.

Headache, general malaise, and fever are important symptoms. Leucocytosis is a symptom of importance, chiefly because we must not place too much reliance upon it in making our diagnosis since it may be present in trauma or cerebral hemorrhage. In acute cerebrospinal meningitis a high white count is the rule—a symptom that usually is of importance in the differential diagnosis of tubercular meningitis.

The writer has seen it present in the latter affection, but has never seen a leucocytosis in a case of uncomplicated typhoid fever.

Disturbances of the pulse rate and paralysis of various muscles, especially of the eye and face are two classes of symptoms directly dependent upon organic change in the brain or meninges. The pulse in the early stages of meningitis or in cases with moderate effusion within the head, is slow as the result of vagus irritation, while in the later stages the pulse is rapid, due to a paralysis of the vagus. If the pulse be not only slow but irregular or intermittent it furnishes still greater cause for alarm.

A slow pulse or a relatively slow one, in a very sick person should always raise the suspicion that there is some factor causing. A pulse of normal rate or one with a rapidity such as might be expected from the general condition of the patient, is a strong presumptive proof that the case is not cerebral in origin.

Paralysis of one or more muscles of the eye or of one of the muscles of the face is of the greatest value. Great care must be taken

not to mistake a slight paralysis for a natural deviation. Special attention is necessary for the detection of a paralysis if the patient be very sick. Absolute paralysis of the extremities seldom occurs.

Jackson presents notes on 18 cases. The ages ranged as follows: Seven between 18 and 25, eight between 25 and 30, and three between 40 and 50 years.

Fourteen gave no history of preceding diseases. In making a diagnosis of tubercular meningitis the lack of evidence of pre-existing tubercular trouble is no strong evidence against the diagnosis. None of the reported cases showed extensive tubercular disease susceptible of diagnosis by recognized clinical methods, and in only 2 of the cases did the pathologist fail to find evidence of old tubercular processes.

The incubation period seemed shorter than that seen in children. Prodromal symptoms were all indefinite. In most of the cases the Widal examination had been made before the disease was diagnosed.

In all the cases but one the pulse was slow in the first part of the acute stage. During the last two or three days of life it was high. Comparing the slow pulse rate with the stupor, delirium or noisy maniacal conditions and the marked discrepancy between the pulse and the general condition, show its dependence on the cerebral trouble. The temperature ranged usually from 100 to 101°, rarely over 102.5°. The small leucocytosis favors the diagnosis of tubercular meningitis. Lumbar puncture was done in 8 cases and the tubercle bacilli demonstrated in but 1 case. Retinal tubercles are certainly rarely found by ophthalmoscopic examination.

Three of the patients died in less than two weeks of the onset of acute symptoms, two cases lived for three weeks.

Acute miliary tuberculosis was found in 7 cases, and general acute miliary tuberculosis in 5. Meninges of brain and cord were both affected in 8 cases.

Spinal Cocainization.

The recent experiments of Bier, (*Munch. Med. Woch.*, No. 14) the rediscoverer of spinal anesthesia, have convinced him that by adding adrenalin or suprarenin it is possible to make this method safe and satisfactory.

The author reports 121 cases operated upon without a single mishap occurring in any instance. Elderly and debilitated patients tolerated the procedure remarkably well. The Quincke needle is

used. Solutions made as follows: .5 cc. of the 1/1000 solution of adrenalin is mixed with an equal amount of physiologic salt solution and boiled up briefly before use. The entire amount is then injected. The cocain solution is prepared by dissolving .1 gm. in 10 cc. of sterile physiologic salt solution. The amount of the solution required for the day is sterilized by boiling. The dose is .005 to .02 gm. of cocain in a 1 per cent solution. The cocain is injected five minutes after injecting the suprarenin solution. Five minutes after the latter procedure the patient is ready for operation.

The principal and most distressing phenomena of the by-effects are vomiting, tremor and profuse sweating. Headaches were often very intense and persisted for a week or more.

Slight rise of temperature, stiff neck, and retention of the urine were sometimes noted. Never were chill and high fever present.

Bier is confident that the suprarenal preparations act as antagonistic to the dangerous action of cocain in spinal anesthesia.

We believe that further experimental research and observations are necessary before spinal anesthesia be accorded a permanent place among surgical procedures. In the meantime we advise that the technic be most carefully and cautiously studied before being tried. Bier's results are certainly encouraging.

Scarlet Fever.

Skaife (*Med. Sentinel*, April, 1904) believes that by far the best method for keeping the fever within reasonable bounds is sponging with cool water since it reduces the temperature, keeps the skin active and aids in preventing the development of an acute nephritis. An ice cap is indicated when cerebral symptoms develop. The writer believes that antipyretic drugs are synergistic to the hydrotherapy, and vice versa. It is quite essential that the physician remember that scarlet fever and diphtheria may coexist, hence cultures should always be made.

The reviewer would respectfully mention the valuable monograph of Dr. E. W. Saunders, (*Archives of Pediatrics*, February, 1903) in which pilocarpin was so highly recommended in the treatment of scarlet fever. It reduces the temperature, prevents glandular infection and rapidly improves the state of the oral and faucial mucous membranes. Pilocarpin should not be given immediately in conjunction with the coal-tar antipyretics.

Tubercular Pericarditis.

Stockton (*Amer. Med.*, June 11, 1904) reviews the literature and reports three cases. He finds that it may occur as an acute disease with abrupt and severe invasion, terminating in a few weeks, or as a chronic process lasting many months.

It may show itself as a dry plastic pericarditis without fluid effusion, or the effusion may be massive with little plastic element in the exudates.

Frequently the exudate is sanguinolent, rarely purulent. Sometimes the pericardial space is obliterated as the result of dense adhesions. The sac may be enormously thickened, partly by masses of caseous material and partly by plastic exudate. Calcareous degeneration is sometimes seen, and the "hairy heart" is sometimes found. Usually the disease is secondary. That which is most often found, is caseous degeneration of the bronchial lymph-glands and other mediastinal structures; however, tuberculous pleurisy, pulmonary tuberculosis, general tuberculous peritonitis, osteitis, or other tuberculous lesions may be the primary focus from which the pericardium becomes invaded.

A remarkable fact is the frequency with which the pleural effusion occurs as an accompaniment in the disease, and ancient adhesions indicate antecedent pleuritis.

The first patient reported by Stockton was a male; aged 71; German; well developed, good family history; during past six years had complained of an irritable heart; patient somewhat neurotic; some three years ago patient had an attack of acute, dry pleurisy of the right side, accompanied by extreme pain and followed by abundant fibrinous exudate, but there was no evidence of fluid. Recovery seemed complete except for occasional twinges of pain in this area. Some two years and a half ago patient complained of some thoracic affection but on examination a few months later failed to reveal anything of importance. Last February patient complained of chilliness, extreme weakness, pains in extremities, insomnia and fever.

During the next few days the temperature ranged between 102 and 103°. The respirations were not accelerated and no physical signs were demonstrated. It was quite apparent that the patient was very ill. Blood analysis showed:

Red cells 5,200,000, white cells 54,000, hemaglobin 85 per cent, polymorphous cells 73 per cent.

On the sixth day distinct pericardial friction sounds were first detected. The liver was enlarged; urine abundant, containing albumin, hyalin and an occasional granular casts; urea in excess.

Patient complained of a dull aching over the precordial area and slight tenderness there upon pressure. Pericardial friction continued during the second week and was accompanied by an increase of the area of cardiac dullness, particularly in the second and third interpaces. The friction sounds gradually disappeared and a pleurisy developed. The quantity of pleural effusion was not sufficient to account for the degree of pulmonary retraction found present. During the following few days there developed a right pleurisy. The respirations became somewhat accelerated and the left pleural cavity was aspirated. About 900 cc. of a straw-colored fluid was withdrawn.

Patient seemed to improve thereafter and the constitutional symptoms improved. They returned, then gradually disappeared only to again reappear. The pericardial effusion seemed to extend upward in place of downward. Traube's space remaining resonant.

During the fourth week it was found that a thrombo phlebitis of the left femoral vein was developing. Edema of the limb followed, later subsided. The diet—liquid—seemed to increase the laryngeal irritation to such an extent that soft-solid food was given.

The following week the pleural sac was aspirated and 600 cc. of a similar fluid evacuated. Three days later 500 cc. were obtained. The larynx now presented an infiltrated appearance which later gradually increased. Secretions from the larynx were found to contain the tubercle bacilli. Patient gradually became worse and died on the fiftieth day. Autopsy showed an acute tuberculous pericarditis with effusion; the pericardium containing 250 cc. of fluid. Tubercle bacilli were easily demonstrated. Larynx showed tuberculous infiltration.

Stockton's second case was a middle-aged female with an enlargement of the cervical lymphatics. No friction sounds demonstrated. There developed a left pleural effusion which later was frequently aspirated. Dyspnea was prominent. The autopsy revealed a thick, shaggy, fibrinous, pericardial exudates; small heart with valves in good condition. Lungs presented evidences of an old tuberculous

process. Tubercle bacilli readily demonstrated in the pericardial fluid.

The third case was a male, aged 53, with a tubercular family history. Temperature ranged between 98 and 101°. Right pleural effusion was frequently aspirated. Patient gradually succumbed. Autopsy showed about 1,000 cc. fluid in right pleural cavity. Lymph glands at root of lung were enlarged. Tuberculous masses were also found in both lungs. Pericardial cavity was obliterated by tough fibrinous adhesions. No fluid present. Heart was small and tubercles were found present.

Stockton draws the follows conclusions:

1. Tuberculous pericarditis is not a rare disease.
2. The diagnosis is usually not made, except in cases with simultaneously active tuberculous processes in other parts.
3. The concurrence of pleurisy with blood-stained effusion may be regarded as suggestive.
4. Pericarditis may be of chronic obliterating type, or may be massive effusion, generally sanguinolent but rarely purulent.
5. May be acute, continuing for a few days, or chronic existing many months.
6. May be a part of a multiple serositis and the proportion of cases, in which at least, one or more of the pleural cavities are invaded, is remarkable.
7. The disease is to be regarded as a secondary affection, although from a clinical point of view, some cases may be looked upon as primary.
8. The point of origin of the infection is often found in the bronchial and mediastinal lymph-nodes, although these may be quite exempt from the disease. The infection may be direct from continuity of tubercular tissue or by transmission through lymph spaces or through the circulation.
9. The heart may be greatly enlarged or normal in size, or even somewhat small.
10. Some observers believe that occasionally the process subsides and that a comparative cure results.

SURGERY.

In Charge of M. G. GORIN, M.D.

Lumbricoid Worms and Appendicitis.

LeRoy des Barres (*Gazette des Hopitaux*, October, 1903) calls attention to the fact that helminthiasis, and particularly lumbricosis, are of very frequent occurrence in India and China. In more than a thousand cadavers which he has examined he has found that over half of them contained lumbricoid worms. He calls especial attention to the fact that has already been frequently noted, that appendicitis is extremely rare in China. The examination of the appendix upon 200 cadavers during the past year showed that in only two instances was there any diseased condition of the appendix, and these were simply slight adhesions. In 10 of these 200 cases the writer found a lumbricoid worm in the lumen of the appendix. In 6 of the cases the worm was engaged by its cephalic extremity; in 4 cases by its caudal extremity. The exterior of these appendices did not present any peritoneal reaction. The appendix appeared simply somewhat more firm and resistant than normal. In 7 cases the worm was still alive. In all of the cases except 1, the mucous membrane of the appendix was macroscopically normal. In 1 case the mucosa was reddened, as was the case with the mucosa of the cecum, but the individual had died of cholera, which probably explained this condition.

The writer believes that the presence of a lumbricoid worm does not cause appendicitis unless there should be added to it some bacteriological infection. He, furthermore, does not believe that these worms predispose to appendicitis. He raises the question as to whether or not the worms may have found their way into the appendix after death of the individual and admits that in some instances this may be possible. He, however, believes that the intermittent pain in the caecal region which is frequently noted in cases of helminthiasis may be and very probably is due to the irritation of the appendix by the worms; but that these pains are not accompanied by any peritoneal irritation and disappear as rapidly as they appear. He calls attention to the fact that lumbricoid worms have been found in an abscess following a perforation of the appendix, which he believes is positive proof that they not infrequently gain access to the lumen of the appendix during life.—*Albany Med. Annals*.

The Prophylaxis of Postoperative Cystitis.

Baisch (*Munch. Med. Woch.*, No. 38, 1903). All operations upon the female genitalia are apt to be followed by an inability to pass urine, and the use of the catheter in many of these cases is followed by severe cystitis, which often leads to an ascending affection of the kidneys and frequently death. This has been especially true of obstetrical practice and many of the obstetricians have endeavored to seek other means of producing spontaneous discharge of the urine. Bumm has definitely shown that it is not alone the catheter or the bacteria which may be introduced along with it which is responsible for the inflammation, but that there must also be a certain predisposition on the part of the bladder, which is usually found in injuries received either during the confinement or during operation. This is especially true of operations about the vagina, in which so often there is more less traumatism of the bladder. Bacteria rarely produce any disturbance when introduced into an absolutely normal bladder.

Still another factor which favors the development cystitis is a retention of urine, especially in cases of prolapsus of the uterus or of marked laceration of the perineum, in which conditions it is frequently impossible to completely empty the bladder. Postoperative cystitis, however, rarely develops in those cases in which the use of the catheter is not necessary, and for that reason every possible attempt should be made to avoid its use. If necessary, the most careful aseptic technic should be employed. Furthermore, in all operations in the vicinity of the bladder every possible effort should be made to restrict the amount of traumatism. It is a well-known fact that strong disinfectants, and particularly hygroscopic solutions (as, for instance, alcohol) exert a marked stimulation upon the bladder which leads to a frequent expulsion of the urine. Based upon these facts, the writer has made use of glycerin in the attempt to induce spontaneous emptying of the bladder. The method is to inject twenty cubic centimeters of a 2 per cent sterilized boro glycerin solution through a catheter on the evening after operation. The action is usually prompt; in from 5 to 10 minutes the patient will spontaneously empty the bladder without any unpleasant after-effects. The urine is as a rule subsequently passed without any difficulty and if there should be any difficulty the injections are repeated.

In certain cases the use of the catheter appears to be absolutely

necessary. It is advisable to wash out the bladder after it is emptied with a 1/1000 solution of silver nitrate, or in some instances with a 3 per cent solution of boracic acid. In this way it is usually possible to prevent the development of a cystitis.

In conclusion the writer urges, so far as possible, the avoidance of the catheter in all instances; the use of boro glycerin where it is impossible to spontaneously empty the bladder; and in cases where it is necessary to use the catheter, use should be made of disinfectant solutions for the irrigation of the bladder.—*Ibid.*

Primary Spasm and Hypertrophy of the Pyloric Sphincter, with Resultant Enormous Dilatation of the Stomach.

Rebert (*Annals of Surgery*) reports operation on a case for the relief of this unusual condition. The patient, a domestic, usual weight 140 pounds was, as he describes, a picture of starvation, weighing 80 pounds and the stomach dilated to such an extent that a stomach-tube could be passed to the level of the pubes. The abdomen was opened between the sternal cartilage and the umbilicus. Nothing abnormal in the way of inflammatory thickening or narrowing of the pyloric lumen could be detected by palpation or inspection. On invaginating the pyloric end of the stomach and attempting to introduce the finger a diaphragm was found obstructing the pyloric orifice. On considerable pressure an opening was effected through this obstruction and the tip of the finger passed through the pyloric orifice which gave a sensation of powerful muscular constriction.

Pyloroplasty was performed and the patient made an uneventful recovery, and at the end of four weeks she had gained 20 pounds. The examination of the stomach mucosa at the time of the operation revealed no evidence of previous ulceration, either at the pylorus or elsewhere, but in the folds of the pyloric valve was found a bundle of muscular fibers about 6 millimeters in diameter. Some months later her symptoms returned, gastroplication was performed and in a short time her weight increased to 130 pounds, and at the end of eight years she reported that her stomach had acted normally and satisfactorily.

The author suggests that the operation might have been greatly simplified by simply making a small incision into the pyloric end of the stomach and cutting the muscle in one or more places, and the mucosa sutured, closing the stomach incision in the usual manner.

Treatment of Postoperative Vomiting.

White (*Ibid.*) is an earnest advocate of the method of gastric lavage for the prevention of this distressing complication, especially after abdominal operations. He claims that vomiting is due in the great majority of cases to the absorption of the anesthetic from the circulation by the gastric mucosa, and that ordinary medicaments used to allay vomiting are almost invariably of little, if any, benefit.

His method is to introduce a stiff stomach-tube, having an opening at the extreme end, a half and one inch from the end. This is done before the patient has recovered from the anesthesia, and sterile water or salt solution is poured through a funnel held about two feet above the patient until a pint or two has passed and the funnel is lowered quickly siphoning out the contents, this is repeated two or three times until the fluid returns clear of bile or mucus.

Three conditions, according to the writer, absolutely demand this treatment :

1. Where there has been insufficient time to prepare the patient and the stomach is distended with food.
2. Where the anesthetic lasts over an hour.
3. Where the patient has previously suffered from nausea or vomiting.

It is contraindicated in operations on the stomach and in very young children.

Shock After Bleeding.

In bad cases of shock after bleeding do not at first use saline injections under the skin for the fluid will take a long time to be absorbed. Rectal injections are better because we get the immediate effect of the heat, and the intravenous injections are better still, because the fluid enters the circulation more rapidly and the effect is more pronounced.

American Electro-Therapeutic Association.

The Fourteenth Annual Convention of this Association will be held at the Inside Inn, World's Fair Ground, St. Louis, September 13 to 16, inclusive.

Tri-State Medical Society.

The Tri-state Medical Society of Alabama, Georgia and Tennessee will be held at Chattanooga, Tenn, October 12-14, 1904.

BIOGRAPHICAL SKETCHES.

DR. ELSWORTH F. SMITH.

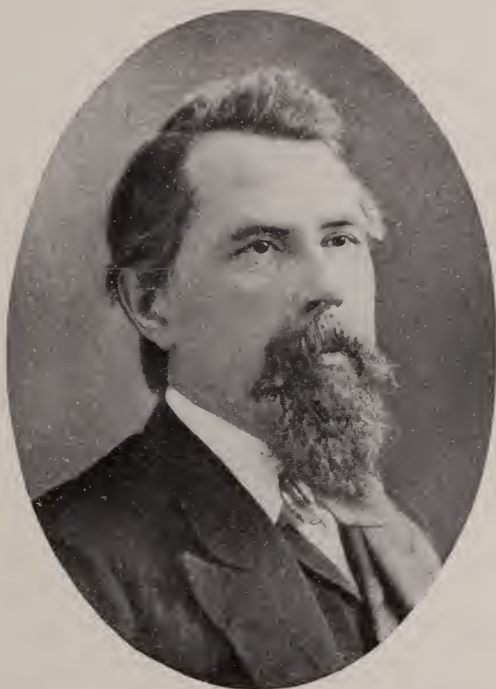
Dr. Elsworth F. Smith, the distinguished medical educator and consulting physician, was born in St. Louis, April 29, 1825. He received his academic education at St. Charles' College, and received the degree of A.B. from the St. Louis University in 1845. He immediately began the study of medicine, and in 1848 he graduated from the St. Louis Medical College. He then spent one year as interne at the City Hospital, where he was associated with Dr. John T. Hodgen. These physicians were the first internes in this hospital, and their labor here resulted in a lifelong friendship and intimacy.

He filled the position of demonstrator of anatomy in the St. Louis Medical College from 1849 to 1851. The following year he commenced medical studies in the hospitals of Paris where he remained two years. Another course of study was taken in Paris in 1864.

During the Civil War he held the very dangerous position as assistant surgeon to the Military Smallpox Hospital, and surgeon to the Elliott Hospital. After the war for three years he was surgeon to the United States Marine Hospital in St. Louis. His heroism during these trying times won the warmest praise from the citizens generally, and gave him a professional standing of the highest order.

During the years 1857 to 1863 he was first health officer of St. Louis, and when the Board of Health was organized was one of its members and served as its third President.

His high qualities as a teacher was generally recognized by the students of the St. Louis Medical College, where he held the professorship of physiology from 1868 to 1870. In 1870 he received the position of professor of clinical medicine and pathological anatomy, which chair he held for fifteen years. In recognition of his services the Faculty made him Emeritus professor, which honor he held until his death. He received the degree of A.M. and LL.D. from the St. Louis



DR. JAMES W. CLEMENS.

*Born June 23, 1829; Died in St. Louis, August 7, 1873.
(See Biographical Sketch).*



DR. ELSWORTH FAYSSOUX SMITH.

*Born in St. Louis, April 29, 1825; Died at Fort Missoula, Mont.,
August 19, 1896.*

(See Biographical Sketch).

University in recognition of his learning and public services.

In 1860 he married Miss Isabella Chenie, who, with five children, survive him, viz, Dr. Elsworth Smith, Jr., J. DeMun Smith, J. Sheppard Smith, Mrs. William D. Crosby and Mrs. J. D. P. Francis.

Dr. Smith, on account of his scholarly attainments and professional skill, was one of the best known physicians in St. Louis and as a consulting physician held the highest esteem of his professional brethren.

DR. JAMES W. CLEMENS.

Dr. James W. Clemens, on account of his exceedingly modest disposition, was not so generally known as some other prominent physicians of St. Louis, yet all his friends had a high regard for his great abilities and admired the sterling qualities of his character. In his home life he was considered an ideal man. His great devotion to professional duties left a permanent impression on the medical profession.

Dr. Clemens was born June 23, 1829, in Wheeling, Virginia. His father also was a physician and one of the founders of Wheeling. He received a very thorough general education and finally graduated in medicine.

He came to St. Louis in 1861 and in a few years attained great distinction on account of his learning and intense devotion to professional labors. At once the profession recognized his ability and he received the appointment of professor of physiology in the St. Louis Medical College, a position previously filled by the distinguished Dr. John H. Watters. Nothing, excepting his family cares, detracted him from his studies and his absorption in medical matters took up all his time. He gave his whole life to his work and died comparatively young.

He married Miss Helen I. Clemens, of St. Louis, in 1866. Their only son died in 1869.

His intimate friends always spoke highly of his fine moral sentiments, his students knew him as a profound thinker, his professional associates regarded him as a great student, and his friends highly prized his friendship.

He died in St. Louis, August 7, 1873.

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

Von Bergmann's Surgery.

A System of Practical Surgery. By Drs. E. von Bergman, of Berlin, P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., professor of surgery in the College of Physicians and Surgeons, Columbia University, New York. To be completed in five Imperial Octavo Volumes, containing over 4000 pages, 1600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6 00; leather, \$7.00; half morocco, \$8 50, net. Lea Brothers & Company, Philadelphia and New York.

Volume III just ready, 918 pages, 595 engravings, 21 plates.

The third volume of this work so admirably arranged for convenience of reference is devoted to the surgery of the extremities, and not only from the standpoint of the surgeon alone but also for every physician in general practice this volume is replete with most valuable information concerning the ever-important topics of fractures and dislocations. These subjects are completely illustrated with numerous x-ray photographs and the most recent methods of treatment set forth.

The chapter on congenital dislocation of the hip is a most interesting one and the methods of Lorenz, Mikulicz and Hoffa receive special attention. The subject of aneurisms of the various blood vessels of the extremities receives particular attention. An exceedingly thorough and comprehensive article is the one devoted to injuries of the hip-joint.

The Practical Medicine Series of Year Books.

Comprising 10 volumes of the year's progress in Medicine and Surgery, issued monthly under the general editorial charge of Gustavus P. Head, M.D., Prof. of Rhinology and Laryngology, Chicago Post-Graduate Medical School. The Year Book Publishing Co., 40 Dearborn street, Chicago. Price for the series, \$5.50, in advance.

Volume IV.—Gynecology. Edited by E. C. Dudley and W. Healy. March, 1904. Price \$1.00.

This little book forms a commendable continuation of the previous volumes. It gives the reader a clear idea of the progress in gynecology during the last year and should find a favorable reception at the hands of the general practitioner. It will not come amiss to the specialist either to freshen up his memory. The editors call attention to the fact that the gynecological literature of the past year shows a growing proportion of material from American sources.

Social Diseases and Marriage.

Social Prophylaxis. By Prince A. Morrow, A.M., M.D., emeritus professor of genito-urinary diseases in the University and Bellevue Hospital Medical College, New York, etc. Lea Brothers & Co., New York and Philadelphia.

Whoever writes on the subject of prophylaxis of venereal diseases in marriage in such a way that he will reach wide circles of physicians and appeal to their understanding and hearty co-operation, has done a meritorious work worthy of our highest commendation. The French have, so far, been pre-eminent in calling the attention of the profession to the dangers to marriage by the introduction of venereal diseases. Within the most recent time a large hand-book by German authors is making its appearance in which the significance of venereal infection in married life is strongly represented. Morrow has the distinction of having written the first comprehensive treatise in the English language upon this subject. In his book of 385 pages he sets forth clearly the dangers introduced by venereal diseases into marriage—dangers to the wife, dangers to the offspring, and dangers which come from their morbid irradiations into family and social life, and indicates the most effective means to prevent these dangers or to limit and circumscribe their spread. This protective duty which has for its object the preservation of the helpless and innocent from infection, devolves upon the physician in his capacity as sanitarian and guardian of the public health. The fulfilment of this duty realizes the highest ideals of preventive medicine. In safeguarding marriage from the dangers of venereal diseases the physician becomes the protector of the wife and mother and the preserver of future citizens to the State.

The first two parts of the work deal, in twenty-three chapters, with the relationship of gonorrhea and syphilis with marriage. As the main object of marriage is procreation of children the effect of marital infection upon the offspring is of paramount importance. The influence of syphilis upon the offspring is expressed in one word—*Polymortality*; while gonorrhea is a more potent factor in the depopulation of countries even than syphilis on account of its production of secondary sterility. No physician, irrespective of the special line he may pursue in his practice, should miss the opportunity to make himself thoroughly familiar with the various aspects of venereal infection. There is hardly a single problem created by the introduction of venereal diseases in marriage, no matter how delicate and perplexing, which is not discussed by the author in a most excellent and dignified diction, and the reader will find in the perusal of this book the general principles which should form the basis of his conduct in dealing with the various situations which may present themselves in practice.

The third part of the work deals with the Social Prophylaxis. Inasmuch as the prostitution is the original source of marital infection, the causes of prostitution are examined into and certain remedies suggested, special prominence being given to moral and educational influences.

In summing up, we can not refrain from repeating that the work done by Dr. Morrow can not be valued too highly, and we sincerely hope that its good effect upon the profession, and indirectly upon the laity, may be but a question of time.

Durham's Normal Histology.

A Text-book on Normal Histology for the use of Students and Practitioners of Medicine. By Edward K. Durham, Ph.D., M.D., professor of general pathology, bacteriology and hygiene in the University and Bellevue Hospital Medical College, New York. New (3d) edition, revised and enlarged. In one octavo volume of 334 pages, with 260 illustrations. Cloth, \$2 75, net. Lea Brothers & Co., Philadelphia and New York. 1904.

This fundamental subject has received much consideration in late years and the complete histology of the present is a very voluminous record, which is too vast for students and practitioners of medicine. Hence, it is expedient for some specialist to select the essentials from the non-essentials and present this complicated subject in a concise and interesting book. In this respect this volume certainly is ideal. It is just such a book which the practitioner can read at his leisure and review the microscopic anatomy of the human body.

The present revision brings all matter up-to date and a valuable section on the care and use of the microscope and on histological technic has been added. Special consideration is given to the recent discoveries of the minute anatomy of the central nervous system.

There is no better manual for laboratory use that can be recommended to students.

The Perpetual Visiting and Pocket Reference Book. Including

Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes, Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 25 cents. The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

This is one of the neatest and most complete Visiting Lists offered to the profession. The Dios Chemical Company propose to furnish a limited number of this unexcelled Visiting List to the profession for 25 cents. The doctor will readily recognize that the Dios Company is saving no expense in keeping its name prominently before the profession, for whom it manufactures products, of more than ordinary merit, exclusively for the physician to prescribe. Those of our readers who desire a complete Visiting List, have only to remit 25 cents (for postage and wrapping) to the Dios Chemical Company, St. Louis, Mo., and they will receive it.

NOTES AND ITEMS.

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

Fourth Pan-American Congress.

Dr. Ramond Guiteras, Secretary, announces that the Fourth Pan-American Medical Congress, which was to have convened the latter part of December, 1904, at Panama, has been postponed until the first week in January, 1905. This was done at the request of many physicians who proposed to attend, as they desired to be at home with their families during the Christmas holidays.

The delegates from this side of the continent will, therefore, leave Tuesday, December 27th, if they go down from New York by the regular Pacific Mail Line, or at other dates if they go by way of New Orleans or Jamaica. The dates of sailing from the Pacific Coast have not yet been ascertained. The Congress will be held from the 4th to the 7th of January.

The officers of the Congress appointed by President Amador, of the Republic of Panama, are: Drs. Julio Icaza, Ciro Uriola, J. Calve and Carlos Cooks, Panamanians; Dr. Gorggas, Chief of the Panama Canal Sanitary Commission; Drs. Carter and Ross, United States; Dr. Manuel Corales, Cuba; Dr. M. Stern, England, and Dr. Oduber, Holland.

This Congress bids fair to be the most successful Pan American Medical Congress that has ever been held, on account of the central situation of Panama and its easy approach from both sides of North America, Mexico and the Central American Republics, as well as from the countries on the north and west sides of South America.

There will be but four sections at this Congress—Surgery, Medicine, Hygiene and the specialties.

Calomel in Tuberculosis.

Mantel extols the value of calomel in tuberculosis; mercury is no specific agent but it stimulates the cellular activity. He recommends calomel internally and inunctions of mercury externally.—*Wiener Klin. Woch.*

Lecithin and Rats.

Prof. Hatai, of Chicago, according to a press report, has found that white rats fed on lecithin grow 60 per cent faster than they grow ordinarily even in unfavorable surroundings and this growth involves all the various parts and organs of the body.

Action of Morphin on Gastric Secretion.

H. Holsti's method of investigating this question was to administer $\frac{1}{6}$ to $\frac{1}{4}$ grain morphin with a test meal, then obtain the gastric contents at various intervals of times and determine the amount of free HCl. The results were compared with the normal amount of HCl previously determined for each person experimented upon. The first effect of the morphin was to diminish the gastric secretion, the degree of diminution varying greatly. In most cases this primary decrease was quickly followed by a variable increase in secretion. In some cases morphin was administered without food and an empty stomach, the results showing a stimulation of gastric secretion. Continuous use of morphin was found to diminish the acidity of the gastric contents and also to disturb gastric motility.

New Orleans Polyclinic.

Eighteenth Annual Session Opens November 7, 1904, and
Closes May 20, 1905.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of Medicine and Surgery. The Specialties are fully taught, including Laboratory and Cadaveric work.

For further information, address New Orleans Polyclinic, Postoffice box 797, New Orleans, La.

WORLD'S FAIR NOTES.

The Physician at the Louisiana Purchase Exposition.—III.

We were very much impressed with the array of chemicals displayed in several departments. Especially large is the exhibition of chemicals in the German section of the Electricity Palace. We admit that we were very much deceived in some of our speculations. Thus, what appeared like beautiful



Mines and Metallurgy Building.

crystal of potassium permanganate proved to be mononitrobenzidin. A yellow powder was not the yellow oxid of mercury but camphorchinon. We were struck with admiration at the beautiful crystals of potassium bichromate. We wondered if some induction currents in the Electricity Building might not explode a bottle of trinitrom kresol. Surely the achievements of modern synthetic chemistry must rank as one of the score of modern wonders.

In the same section are two laboratories which make interesting comparisons. These are representations of an al-

This is the third of a series of three papers written by the Editor on the Medical Aspect of the Louisiana Purchase Exposition.

chemical laboratory of the middle ages and Liebig's analytical laboratory. One wonders how the old master could have achieved so much with comparatively few apparatus. The great variety of modern chemical apparatus displayed form a striking contrast to chemical possibilities of 50 years ago and those of the Twentieth century.

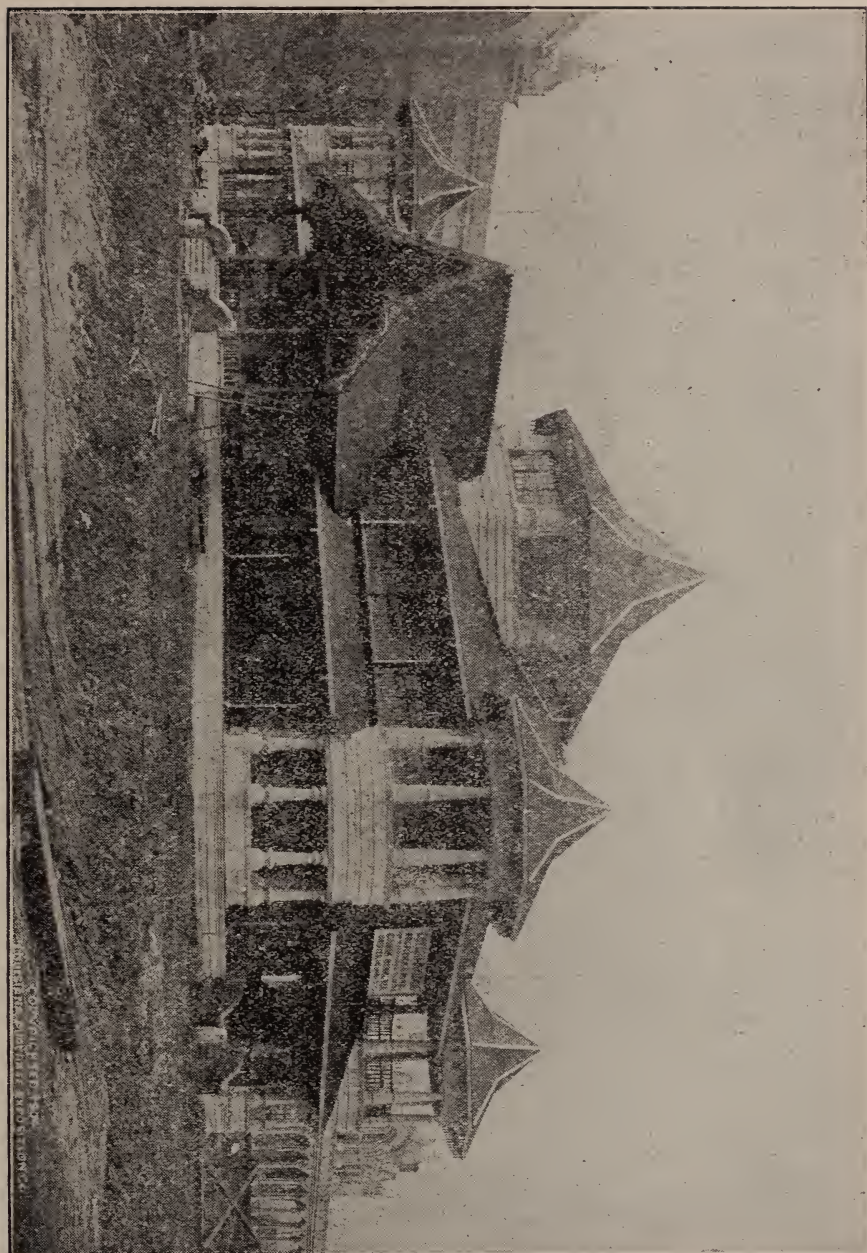


Child and Dolphin.—Statuary.

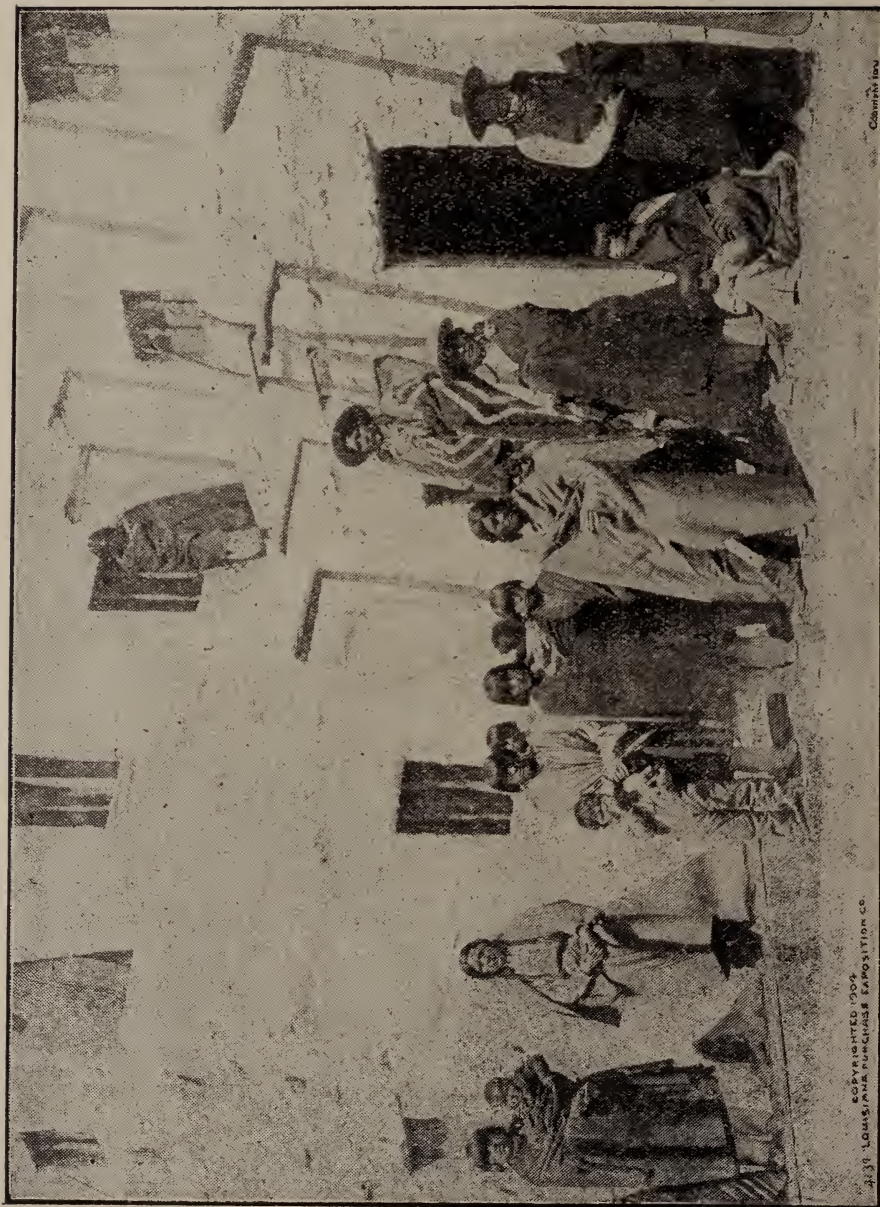
In a comfortable seat in the department of the St. Louis University (Palace of Education) while we rested, a large collection of the principal inorganic compounds formed a pleasant study. As physicians we often forget the color of certain inorganic compounds and a review of our knowledge of chemistry in an easy attractive way is certainly valuable.

In the department of Harvard University, what particularly engaged our attention was a mechanical and optical device by means of which the peristaltic movements of the stomach, small intestine and large intestine are realistically shown. The movements are imitations of those actually seen in animals by means of the Roentgen-ray. We know of nothing that has ever been invented which actually represents the movements of the alimentary canal which can at all be compared as an aid to teaching to the device prepared under the direction of a Harvard professor.

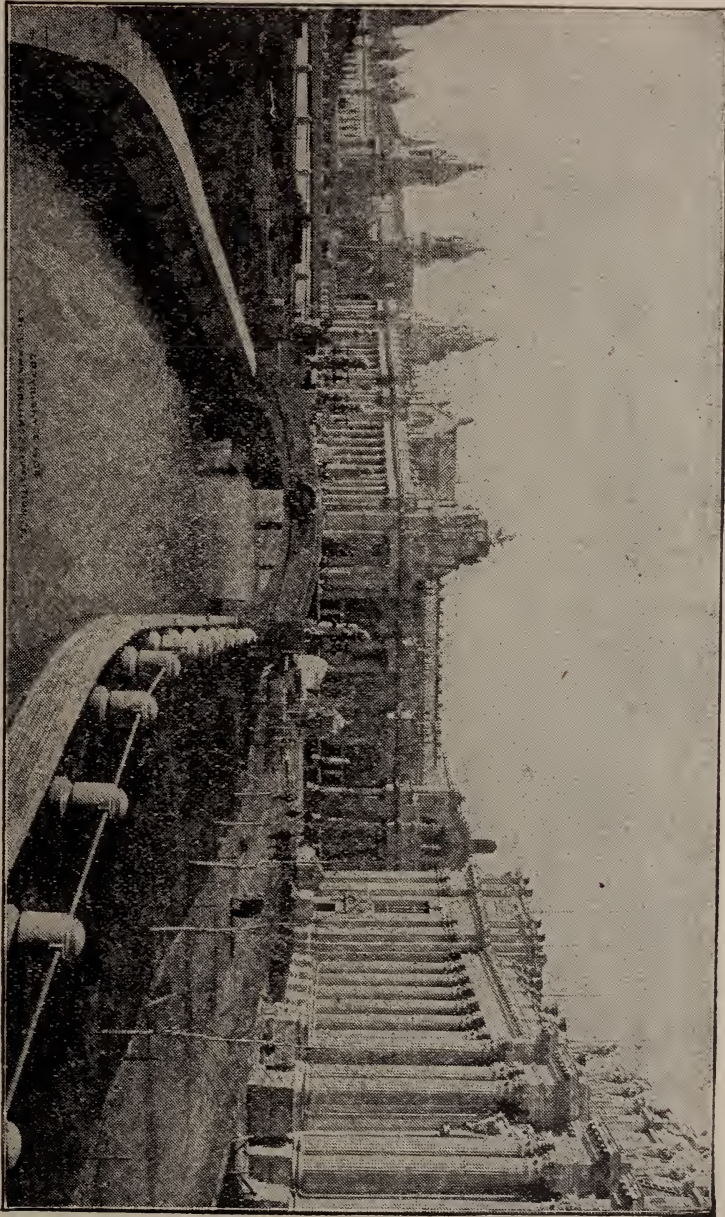
As we have intimated previously, the St. Louis Universal Exposition does not consist of an enormous classified volume;



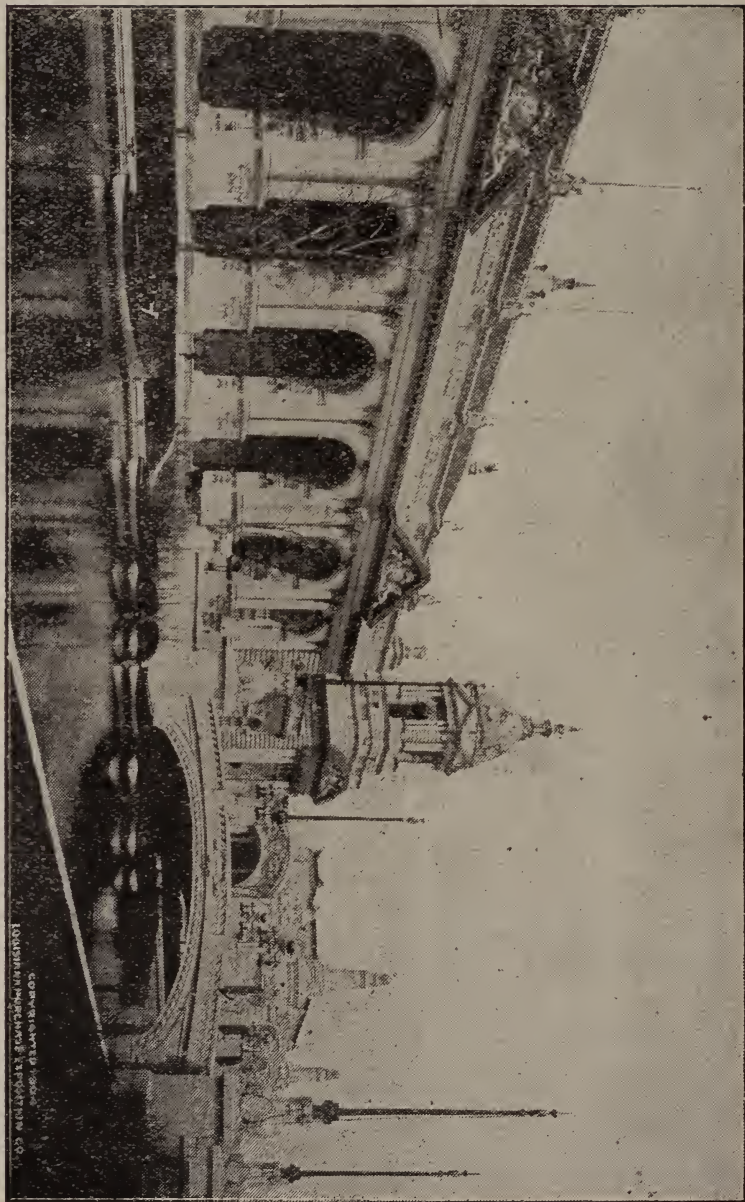
Ceylon Building.



Cliff Dwellers.



Palace of Education.



Machinery Building.

the classification being based mostly on the commercial basis, the scientific classification suffers materially. Taking the enormous amount of material that is especially interesting to the physician a building the size of the Palace of Liberal Arts could comfortably be filled. It should have been called the Medical Palace.

In some of the foreign buildings, notably that of Belgium, an attempt has been made to represent the medical teaching and literature. The importance of advertising foreign medical schools to American physicians is generally recognized. So, too, in this building some anthropologic and paleontologic displays will be found of interest, especially since the vexed question of tertiary man is still in dispute. Paleontology seems to be the central feature of the exhibit also in the buildings of Argentina and Alaska.

The Baby Incubators—more properly *brooders*, on the Pike will, of course, receive the general attention of medical men. Eighteen incubators, made according to the latest improved patterns, are on exhibit, half of which contain premature babies. The incubators receive their air supply through a large tin tube from the roof of the building. The air is forced downward by means of an electric fan, is distributed by a large transverse pipe to the incubators, and after passing through cotton and sulphuric acid passes into the chamber and upward through a narrow tube where its velocity is shown by an anemometer. In its course it passes over water and is moistened. The temperature, pressure and humidity are shown by instruments.

The water which heats the chamber is heated by gas and is controlled by a thermostat. It will edify physicians to remain in this exhibit for at least two hours and carefully study the details of the rearing of these infants. The care, the feeding, the regulation of heat and moisture, the temperature and, finally, the results will be found exceedingly instructive to the general practitioner.

In the Agricultural Palace medical matters are not specially on exhibit, and yet the study of foods—fresh-prepared and condensed, are worthy objects of general study. The adulteration of foods, the composition of foods, the nutritive quality of foods, etc., all have a scientific value which, while displayed commercially, still has a certain practical value to the physician. The artists side in this Building has received

much attention, but the scientific crops out everywhere. Nothing is up-to date without the recent scientific acquisitions.

The Louisiana Purchase Universal Exposition must stand out as the initiatory wonder of the Twentieth century. It is very questionable whether the century will furnish a greater exposition. Either in magnitude or artistic beauty, it seems that the summit has been reached. He who, for some reason, will fail to visit the exposition, will miss much of pleasure and value to his life. There is no physician or scientist in the United States who should deem his immediate occupation so exacting as to neglect a trip to St. Louis this fall. There is pleasure and study waiting for him. Who can tell what new ideas will originate in the minds of men, inspired by the sequence of phenomena observed at the Exposition? It will mean much to art, much to science, but also much to medicine. Fortunately, occultism, spiritualism and Eddyism can make little exhibition outside of statistics, and rational medicine and its results may be portrayed in various ways. The theory of negative science, that is those who dabble in the non existence of material things, and whose whole energy is expended in exploding the results of careful investigations by theoretical argument receive little support at the St. Louis Exposition. Hence, the modern scientific methods of careful induction and general comparison of technic will receive additional popular sanction.

The efforts to educate all the people needs to be stimulated by many ways, since it is so easy to leave the path of reason and wonder in the jungles of superstition. Demonstrated truths must be constantly exhibited. In this wise the St. Louis Exposition will have a lasting benefit outside of its commercial value.

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ORIGINAL CONTRIBUTIONS.

The Modern Treatment of Prostatic Hypertrophy with Obstruction.

By ARTHUR TRACY CABOT, A.M., M.D.,

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THE search for the best method of relief for prostatic obstruction has been one of the most interesting problems in surgery. It has been distinctly a modern question and those of us whose surgical activity began in the seventies have lived through the period of this surgical experimentation. We have seen various methods brought forward, severely tested and then laid aside or partially adopted into accepted practice.

It is because I feel that we are just now reaching sounder ground upon which we can stand more securely, that I have selected this hackneyed subject to present to you.

I do not propose to go into a detailed description of methods, but to sketch briefly the steps which have led forward to our present position in prostatic surgery, and then to examine somewhat more in detail what that present position is.

Such a study of the subject and such an attempt to define

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the position now occupied by advanced surgical practice must necessarily be considerably affected by the personal inclinations and opinions of the writer. I offer here, then, my present creed with a description of the road by which I have reached it.

The following table presents a list of procedures that have been resorted to by surgeons endeavoring to overcome prostatic obstruction.

Catheterization.	
Prostatotomy	{ Perineal, Per Urethram, Suprapubic.
Prostatectomy—	
Partial	{ Perineal, Suprapubic.
Complete	{ Suprapubic, Perineal, Combined.
Orchidectomy.	
Vasectomy.	

CATHETERIZATION.

Of these various methods catheterization has been used probably for the permanent treatment of more cases than have been treated in all the other ways put together.

The discomforts of this method are obvious. The difficulties of obtaining opportunity for aseptic instrumentation or, indeed, for any comfortable catheterization as often as the call to urinate is felt have made the last years of many men miserable.

Besides the discomforts, the catheter patient is exposed to many real dangers directly due to his constant use of the instrument.

Epididymitis is a frequent happening to these patients, often attacking the same victim many times, and not infrequently leading to suppuration.

Prostatic abscess I have seen many times and, doubtless, in some of these cases the suppuration starts in the seminal vesicles. I have seen at least one case in which this was probably the condition.

Cystitis is an almost constant condition in patients using a catheter. Even when the urine appears quite clear and there

are no symptoms of irritation the microscope will show the presence of pus in the urine. This condition of chronic inflammation is liable to sudden and often unavoidable exacerbations. A slight chilling of the surface of the body, a too long retention of urine, or an unusually dirty catheter, are the usual exciting causes of these "attacks of cystitis."

In these bladders, often sacculated, and with thickened walls, such attacks are no slight matter, and they keep the sufferer for a considerable part of the time incapable of work or pleasure.

Even more serious are those cases in which the inflammation creeps up from the bladder to the kidneys. This is quite sure to happen sooner or later and in most patients dying as a result of prostatic obstruction *pyelonephritis* is the finally lethal condition.

After reciting these disadvantages attaching to the treatment by catheter, it must still be remembered that many patients live from ten to twenty-five years after they are obliged to void every drop of their water through a catheter. They have these occasional inflammatory accidents and are able to overcome them with such success that the fatal issue is deferred until they have reached a good old age.

Why has this method of treatment, with so much inconvenience and with danger not inconsiderable, so long held its position as the method of choice in the treatment of prostatitis?

As I understand the answer to this question, it is because, up to a recent time, the dangers of the other methods of treatment were considerable and the relief by them of the urinary difficulty was by no means certain.

The remote risks of catheterization seemed slight compared to the immediate risks of operation, and it has always been a human failing to overestimate the dangers near at hand and to leave out of consideration those which are more remote, though, perhaps, equally real.

Let us now briefly review the steps that have been taken in the effort to so improve the technic of the operations on the prostate as to enable the operator to confidently expect a lasting relief of the urinary obstruction.

ARTIFICIAL OPENINGS.

The idea of avoiding the prostate altogether and conduct-

ing the urine away by a *false route* was early given a trial; and the suprapubic fistula or false urethra of Hunter McGuire had some vogue.

The difficulty of preventing leakage at the fistula and the impossibility of thorough cleanliness prevented this method from ever becoming popular.

The patient's care of himself was quite as difficult as the management of catheterization, so that the method was, at best, only applicable to those cases in which some exceptionable obstruction made the use of the catheter difficult, or to patients who could not procure proper catheters.

PROSTATOTOMY.

Prostatotomy was first done through the urethra and dates from the time of Mercier. At first this operation made but little progress owing in considerable part to the timidity with which it was done. The incisions in the prostate were limited in extent and few in number. Then, perineal prostatotomy was given a trial. The operation was an easy one, consisting of a median urethrotomy through which the prostatic urethra was explored with the finger, which served as a guide to a knife which incised the obstructing bar or lobe. A large drainage tube, with later the passage of a sound, were relied upon to keep whatever gain the incision had afforded.

In this way a few cases were somewhat benefited, but the improvement did not prove to be sufficiently sure or lasting to enable us to offer this operation to our patients with any enthusiasm.

Presently, in the last ten years, internal prostatotomy has been revived with the Bottini galvanocautery knife, and this being used with some boldness and thoroughness, has achieved better results than ever before; better results even than perineal prostatotomy had accomplished. This operation can be done under cocain anesthesia and is consequently, applicable to old and feeble patients, in whom general anesthesia and extensive cutting carry more than ordinary risk.

To add to the precision of this operation the distance to the prostate has been shortened by introducing the instrument through a median urethrotomy (Chetwood), and for this method the additional advantage of drainage of the bladder is claimed. This modification, however, makes the procedure more of an operation requiring anesthesia and so enhances the risk to old,

broken men to whom, as I have said, the operation is especially applicable.

If a cutting operation is to be done the perineal enucleation of the prostate would, in most cases, add but little to the shock, and would considerably increase the chance of a good functional result.

PROSTATECTOMY.

The early prostatectomies were partial operations. During a lateral lithotomy a lobe of the prostate was wholly or in part shelled out, or an operator opening the bladder suprapubically found a projecting and ulcerated third lobe which he cut away, often with the result of restoring the power of urination to a very satisfactory degree. Then this partial operation was systematically undertaken for the relief of obstruction and considerable portions of the prostate were cut away with rongeur forceps.

The functional results of this operation when applied indiscriminately to enlarged prostates was often not good and added but little to the comfort of the patient. The operation was also by no means devoid of risk. Its mortality has been variously reckoned as from 10 to 16 per cent.

Operators soon found that the enlargements of the lateral lobes and their pressure on the urethra were responsible for this failure to get good functional results, and we owe to Belfield and McGill the first systematic attempts to remove the whole prostate. In carrying this out Belfield devised the plan of combining a perineal with a suprapubic incision, thus affording access to the gland from both sides.

Although Dittel had previously shown by dissection that the prostate was quite accessible by the perineal route, after depressing the rectum, to Belfield belongs the credit of first seriously using the perineal route, and advising it as a regular method of reaching the prostate gland.

The various steps of the perineal operation have been so fully and well described (Alexander, Pye, Nicoll, Delbet and Proust, Adenot, Albarran, Young and others) that I will here only speak of their salient features and their points of difference.

Alexander made a very thorough study of the subject, and satisfied himself that the prostate could be enucleated with safety by the perineum, and that this could be accom-

plished without injury to the bladder from below. In order to facilitate the operation, Alexander advised combining it with suprapubic lithotomy which should allow one hand to steady the prostate from above and press it down against the finger which was doing the enucleation in the perineum through a median incision. A skilled operator like Alexander could remove the gland with great precision in this way. The capsule of the gland was torn through from the urethral side, this tear being started at the apex of the prostate, and being extended far enough to afford room for the enucleation. This tear was necessarily irregular, extending as it did in the direction of least resistance. Owing to the uncertainties that the varying resistance of tissues introduced, certain accidents occasionally accompanied this operation even in the most skillful hands. Considerable portions, and sometimes indeed, the whole prostatic urethra were unintentionally torn away with the gland. In a comparatively small number of cases the rectum was torn, and this proved usually to be a serious complication, leading often to the death of the patient.

This method has been variously modified by other operators seeking to avoid opening the bladder above. They have opened down to the bladder wall, and then with pressure applied through the opening into the space of Retzius have pushed the prostate downward. Others have accomplished this without any wound above, simply by suprapubic pressure over the abdominal wall.

The ground was now prepared for the purely perineal operation and surgeons planning for this adopted various methods for bringing the prostate down as near the perineum as possible.

A rubber balloon attached to the end of a stout rubber tube which could be introduced into the bladder through an opening into the membranous urethra was one of the first of these devices (Sims). The balloon, after introduction into the bladder, was blown up so as to give a firm hold within the bladder, and the rubber tube then served as a handle by which strong downward traction could be exerted.

Various rigid instruments were used for the same purpose. An instrument with a beak, set almost at right angles, like a lithotrite, would serve as a hook to draw the prostate down.

Delbet devised an instrument, the beak of which could be bent at right angles to the shaft after introduction.

In other instruments, two beaks can be projected from opposite sides of the shaft (DePezzer), thus giving the best possible hold within the neck of the bladder. Dr. Young's tractor is an excellent instrument of this sort. It is strong, simple in construction and manipulation. This is the instrument that I use and find extremely helpful.

The effort toward a greater precision of technic led to the adoption of a crescentic incision in front of and partly encircling the same, which gives a somewhat wider field of operation, and by allowing of a more complete survey of the anatomical structures, enables the operator to avoid injuring important parts and give better opportunity to repair with sutures the perineal structures that are divided. In one of my operations, the retractor with which an assistant was depressing the rectum tore a hole in its wall. This rent, though in the deeper part of the wound, on a level with the prostate, was easily brought into view and accurately sutured by a double row of continuous chromic catgut and healed perfectly without in any way complicating the case.

This fortunate escape from any evil consequence of an accident that had proved so serious in the earlier perineal prostatectomies, argues for the wide opening afforded by a transverse incision.

If the rectal wall is protected by a gauze sponge beneath the retractor such an accident should not occur.

When the prostate is reached the French operators (Albarran, Delbet, Proust and Adenot) split the prostatic urethra along its floor and then attach one lateral lobe after the other.

Young, seeking to avoid injury of the seminal ducts, makes an incision through the capsule over each lateral lobe in turn. These incisions allow of a complete removal of the gland with usually but slight injury of the floor of the urethra and they avoid the posterior part of the capsule through which the ejaculatory ducts run.

Dr. Young wrote to me that among the patients operated upon by him in this method he has found that of those men who up to that time had retained their sexual vigor, 70 per cent kept it unimpaired after operation.

Describing the evolution of prostatectomy, I have follow-

ed the line directly from Belfield's combined operation through Alexander's operation to the simple perineal operation.

While these steps were being taken, other operators developing the suprapubic operation, showed that the whole gland could be shelled out from above, and that, although the prostatic urethra was often wholly removed in this way, still good functional results were usually obtained.

This operation is still strongly clung to by some surgeons, especially by those who had a hand in introducing it. It has, however, several distinct disadvantages.

First, the vascular ring at the neck of the bladder is liable to injury and the hemorrhage when started is hard to stop except by packing. This adds to the pain and shock following the operation and also increases considerably the danger of sepsis. The packing in the neck of the bladder is so close to the orifices of the ureters that there is danger that its pressure may hinder the flow of urine through them and thus add to the chance of uremia which is the greatest menace to these operations.

The injury to the prostatic urethra is lightly spoken of by the advocates of suprapubic prostatectomy, some of whom regard the removal of this part of the canal as of little consequence.

In seeking a decision between two operations, however, the one which does the least amount of injury will always be preferred if it is equally efficacious.

The perineal operation seems to give more surely good functional results than the suprapubic. It is still too early to know what the final verdict will be as to restoration of function, and it is possible that some cases at first rated as brilliantly successful will show a return of obstruction. We must wait for further information in regard to this permanence of functional results before we are in a position to accurately judge of the claims of either of these operations.

The evidence we now have shows that the complete removal of the gland by either method gives a surer and more lasting relief than any partial operation.

Lastly, the mortality of the suprapubic operation is greater than that of the perineal, and surgeons who have had experience with both operations feel that the perineal operation is decidedly the safer.

Albarran characterizes it as "an operation which is not

grave and which gives brilliant therapeutic results." He reports 42 cases without a death fairly to be attributed to the operation. One of his cases already seriously infected died thirty-eight days later. This seems to have been a case that the operation failed to save, rather than one in which it caused death.

Young tells me in a personal communication that he has done perineal prostatectomy after his method on 50 patients and but two of these patients have succumbed. One died of pulmonary embolism two weeks after operation, and one of asthenia of old age five weeks after operation. This latter patient was a feeble man 84 years of age.

I have had 13 cases without a death, but 2 of these are too recent to be as yet counted.

These 104 cases with but 3 deaths, while too few in number to establish any fixed mortality rate for the operation, show at least that it is a procedure well borne by old men with impaired organs.

After this brief review of the nature and effectiveness of the various operative measures for enlarged prostate, we are in a position to consider how we shall apply them to the varying needs and conditions of our patients.

No single method can be applied indiscriminately to all cases. We must not only take account of the form of obstruction with which we are dealing, but we must also carefully study the general condition of our patient. We must inform ourselves as to the action of the heart and blood vessels. Especially must we study the state of the kidneys. It is not sufficient to satisfy ourselves that the urine is free from casts and contains no albumin, we must learn what the functional activity of the kidneys is; whether the urine is carrying off the excreta in sufficient amount. We shall often find that kidneys that show signs of considerable irritation evidenced by casts and albumin in the urine are in a better functional condition and are doing their work more efficiently than others which are evidently free from any inflammatory condition.

All of this must be carefully considered before we can rightly judge what operative risks may be safely taken. While making the study, we shall often find that by a little judicious treatment, the capacity of the kidneys may be very greatly increased and a power of excretion wholly inefficient for the needs of the body may be so improved that the patient will

bear with impunity an operation which would in his earlier state have been almost certainly fatal.

Until recently, I considered that the catheter should be the method of choice in the treatment of prostatic patients, provided they were intelligent and cleanly enough to observe reasonable precautions in its use. That is, I felt that operative methods with a mortality of 10 to 16 per cent could not justly be urged upon patients able to manage the catheter, and I found that a frank statement of the risks and chances of cure offered by operation usually led patients to adhere to the catheter.

It remained for the modern perineal operation to change this point of view.

The certainty of the technic and the possibility of removing the whole obstructing gland by an incision which avoided important structures and was well placed for drainage and for proper wound treatment, attracted me strongly to this method, and I soon found that I could propose to my patients with a fair statement of its dangers and probable success with a good chance of their accepting the proposition in preference to the catheter life.

I am in the habit now of telling patients for whom the operation seems appropriate that its mortality risk is somewhat less than 5 per cent and that the chance of failure is less than 15 per cent.

The statistics that are coming in day by day show that these figures are, if anything, too high.

In patients with small prostates there is considerable chance of a partial failure in restoration of function, but in men with large prostates in which lateral pressure is responsible for the obstruction, the chance for good functional result is at least 90 per cent, and probably better.

Assuming this modern position to be justified, let us now consider the conditions under which a resort to the catheter may still seem preferable to an operation for the removal of obstruction.

It happens, not infrequently, that the disease runs an insidious course and is first discovered when the kidneys, and perhaps the heart and vessels, too, are already seriously affected. Under these conditions the dangers of an operation are enhanced, and if the patient is made reasonably comfortable with the catheter, it may be better to temporize in this

way for the short time remaining to him of life. Even in these cases, however, it is often possible to do a Bottini operation under cocain anesthesia and thus restore a reasonable power of urination with a minimum of operative risk. When these advanced prostatics have already reached a degree of renal insufficiency so great as to have led to a decided state of uremia, evidenced by nausea, vomiting, somnolence or great restlessness, they are not in a condition to bear operative interference. Such patients may be greatly benefited by the judicious use of the catheter.

In a recent paper I have shown that by constant drainage through an in-lying catheter, the function of the kidneys already seriously disabled may be restored, and patients in a pronounced uremic condition may be brought back to a state of health in which they can safely undergo operations which would have been almost certainly fatal if done during the existence of uremia.

In very fat men with large prostates, the depth of the perineum and the suprapubic approach add greatly to the difficulties of the operation; and as such patients do not bear operations well, it may be the part of good judgment to introduce them to the catheter life, rather than to subject them to the unusual operative risk that their condition entails.

Even these seemingly unfavorable conditions may, however, be overcome by judicious management, as the following case well shows:

E. L., aged 72 years. A stout, flabby and pale old man, entered the Massachusetts General Hospital, April 22, 1904. He had noticed progressively increasing frequency of urination for the past six months. Two weeks ago he was seized with pain in the abdomen. He had been constipated and was taking laxatives at the time; the bowels then became loose with tenesmus. He worked at shoemaking until eleven days ago. Five days ago he began to vomit; the vomitus was black in color but not fecal.

At the time of entrance he was vomiting profusely the same black material and had a large loose movement also black in color.

Lungs emphysematous with râles in the bases.

Bladder distended to above the umbilicus.

The catheter drew 83 ounces of urine, clear and light in color—specific gravity, 1012. The catheter was tied in. Af-

ter this the daily amount of urine varied from 60 to 80 ounces and contained hyalin and granular casts which gradually diminished in number.

The temperature at first ranged between 102 and 103°F.

The condition of the lungs (hypostatic congestion) was thought to partly account for this.

The vomiting ceased immediately after drainage of the bladder was established and never reappeared.

April 24th (two days after entrance) the 24-hours' amount of urea was 9.8 grams.

May 7th, urea was 27.7 grams.

May 16th, perineal prostatectomy was done without causing any interference with the action of the kidneys. In fact, on the second day after operation the quantity of urine rose to 130 ounces for that single 24 hours.

This case is not yet finished and the functional result is still in doubt, but it serves as an illustration of the manner in which a uremic patient with greatly distended bladder may be prepared for serious operative interference.

Finally, there will be a certain number of patients with hemorrhagic diathesis, with diabetes, or with some other complicating disease that prohibits any operation that can possibly be avoided, and in which we shall fall back upon the catheter as a *pis aller*.

The catheter will also continue to play an important rôle in the immediate relief of cases of sudden complete obstruction. To the majority of other prostatic patients we may properly, I think, recommend a consideration of operative treatment.

Lastly, a few words as to the applicability of these operations to different forms of prostatic hypertrophy.

If the prostate is large, it is usually easy to enucleate through the perineal incision. If it is small and tough, attached to its capsule so that it does not strip readily, it may be gnawed out piecemeal with rongeur forceps and scissors. In one such case I cut away, bit by bit, a tough bar at the neck of the bladder until only soft mucous membrane was left.

Sessile third lobes, large or small, may be pulled down and removed through the opening left after the removal of the lateral lobes.

Pedunculated lobes may be drawn down in a similar way

unless the pedicle is small. In two such cases I have pulled the lobe out through the urethra and cut it off, with excellent result.

Occasionally we meet cases in which the third lobe forms a large pedunculated tumor which is difficult of approach from below, but which can be easily removed through a suprapubic incision. Moreover, these polypoid growths usually stop the urine by acting as a ball-valves and their removal often restores the power of urination without the necessity of removing the whole gland. Such an operation has but little risk, and these are the patients for whom a suprapubic incision should be chosen.

When other conditions exist, such as a large or sacculated stone which requires a suprapubic cystotomy, if a pedunculated third lobe is found, it can be easily removed without adding to the severity of the operation, and such removal has a very fair chance of restoring the power of urination.

CONCLUSION.

1. I consider a perineal prostatectomy the method of choice for the treatment of prostates causing obstruction so great as to require the constant use of the catheter.

2. In patients too old or enfeebled to safely bear this operation, a Bottini operation under cocain may often be safely done, or if even this seems too severe, the catheter life may be entered on.

3. It is still too early to be sure that all of the good results reported soon after the operation will show themselves to be lasting.

4. The cases in which functional failure seems most probable are those with small contracting prostate and with distended atonic bladders.

[1 MARLBOROUGH ST.]

Climatology: Its Value to the Student and Practitioner of Medicine.

By S. E. SOLLY, M.D.,

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IT IS not my purpose to give you an exposition of the details of medical climatology, but to call your attention to its general and relative importance.

The value of climatic influences in the treatment of disease was formerly overestimated, to-day it is underestimated. The reason for this is because of the welcome but belated recognition by the profession at large of the paramount importance of hygiene in the cure of pulmonary tuberculosis.

As an overwhelming majority of the invalids who resort to change of climate are victims of tuberculosis, it is mainly in this connection that I propose to discuss the subject.

For a long time the physicians whose chief concern has been with tuberculous patients, have preached to their brethren upon the importance of hygiene, especially in the regulation of exercise, diet and daily life, as well as the due consideration of individual peculiarities and the value of a suitable change of air. They have also furnished statistics demonstrating the practical benefits arising therefrom. Moreover, for many years the methods and success, first of the consumptive hospitals of England and later the sanatoria of Germany and Switzerland in the treatment of tuberculosis have stood an object lesson for the profession to learn by. In spite of all these teachings they would not learn but trusted to the use of minor weapons, such as creosote and cod-liver oil, to win with in the fight against tuberculosis, ignoring hygiene, permitting re-infection and closing windows in their exaggerated fear of drafts.

The early symptoms of the disease were unrecognized and the doctors did not awaken to the peril of a tuberculosis until phthisis was well established. Many physicians from ignorance or greed kept their patients with them, seeing them slowly die while sowing a fresh crop of tuberculosis among the inmates of their unclean, ill-ventilated homes. Other physicians rather than their clients should die upon their hands

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hastily shipped them to another climate, the place ill-chosen and the hour too late.

While climatic change was recognized by the specialists as valuable, up to 35 years ago, they were at fault in its application; being influenced by the fear of cold for their patients, they sent them to warm climates, and noting the soothing effects of dampness upon the cough and general nervous irritability, they chose a moist in preference to a dry air. These were the days when euthanasia was practiced by sending off patients to die peacefully in the soothing lethal chambers of Madeira and Florida, or they were exposed to the vicissitudes of weather and the dangers of ill-ventilated cabins upon long sea voyages. In these latter experiments the hardy ones fared better than those who were condemned to the enervating culture medium of moist heat on shore, but the route and season were not wisely considered, nor the individual, as to the probable effects upon him of the monotony of life and diet.

Next came the use of altitude, and when Davos Platz was first opened there was an uplift of the voice in favor of high climates, and from London, Paris and Berlin patients were sent to the mountains of Switzerland, Italy and later to the far Andes and the high plateaux of Colorado, but alas, while the remedy was a good one, too often it was forgotten that its value lay in its appropriate application. Thus many were sent who had scarcely strength to reach their destination, and others to whom a rarefied air was almost a poison, died the quicker from the change.

Later came the recognition of the value of hygiene and the open air treatment as valuable apart from the use of climate. It was a matter of great surprise to many of the profession to find that patients in an indifferent climate did well with the open air treatment and rest. The fact that patients can get well of tuberculosis in such climates as England, the Eastern States and Europe has led to the idea that all that is wanted is quantity of air without respect to its quality. It is an undoubted fact that hygiene is of the first importance. Dr. Burney Yeo said truly that "a bad climate with good care was better than a good climate without care." Therefore, the first essential is the care of the patient. The reason that so many have gotten well without marked climatic change is because of the early recognition of the disease and the fact that tuberculosis is a curable disease in a large percentage of cases.

Post-mortem examinations reveal that a large number of persons have been spontaneously cured in whom had been observed no symptoms of tuberculosis during life. It is, therefore, not surprising that a great many patients should get well even in an indifferent climate. Nevertheless, there is a large margin of cases in whom the chances are less and in whom not only the quantity but the quality of air is important.

The influence of a mere change of locality upon the mind of the patient is quite marked and an important consideration. While a change of surroundings is usually beneficial to all invalids, it is particularly so to the tuberculous. When a patient is informed that he has tuberculosis he nearly always wants to get away to something different. Change of climate, fortunately, generally results in obtaining a purer, even if not an air different in quality.

Many physicians have said that a climate with plenty of sunshine, because an outdoor life can be readily indulged in, is all that is wanted. There is, however, to be reckoned with the amount and intensity of sunshine. The good effect of sunlight upon tuberculosis is undoubtedly something more than the result of the mere ability to sit out of doors; there is something in the influence of the rays of the sun with their light and heat. We know the power of light upon disease, as shown in the use of the Finsen rays, x-rays and radium. Also the beneficial effects of heat upon many diseases. To secure the influence of sunlight in the highest degree, dryness of air is necessary. Sunlight has to be gradually accustomed to, especially by fair people. Sunlight, moreover, is at all times too stimulating and very irritating to some persons. This explains the remark of the Englishman who, landing at Liverpool in a fog upon his return from Colorado, said, "thank God, I am out of that beastly sunshine." In what scantiness of sunshine the English dwell and how it seems entirely absent to the dwellers of dry sunny lands is illustrated by the story of the bishop in England saying to a visiting Parsee, "I can not understand how an intelligent man like yourself can worship an inanimate object such as is the sun." To this replied the Parsee, "Ah, my lord bishop, but you should see the sun, what a glorious thing it is."

Dryness of air in a climate does not necessarily mean also a scanty precipitation. For the air may be almost constantly humid with a moderate annual rainfall because of the frequency

of light showers, dews and fogs and the little evaporation owing to a clay soil or the absence of drying winds. There may be a large number of rainy days and a small rainfall or a heavy rainfall and few rainy days. Again, there is a difference in the rain falling from an upper stratum of clouds through a dry or through a humid air. A gentleman in Colorado was talking to a visitor from the East and remarked, "In the Adirondacks it is always raining," to which the visitor replied, "I notice it is raining here." "Yes, but you see here it is dry between the drops." It is not merely the rainfall that should be taken into consideration, but the number of rainy days and the humidity. If you want sunshine without humidity you must get away from the coast.

For years patients have been sent to Egypt and Algeria, but the Arizona lowlands are just as good and in some respects better. In these lands we find great dryness and great heat in summer, and in winter genial warmth. Immense benefit is derived in many cases from winter residence and in a few by residence through the summer. I myself recovered my health in Egypt, but later work in London broke me down again and I went to Colorado for permanent residence with a successful result. The heat of desert climates is almost insupportable in the summer to most people, and to certain others the climate is rather irritating even in the winter. On account of heat and dust, and absence of rarefied air, it is not as bracing as the high altitudes. These remarks apply to the lowlands of Arizona, on the uplands there is a fine mountain air with less cold than in Colorado.

There was and still is a pet delusion that equability is necessary in a good climate for phthisis. The fact being that real equability does not exist without constant humidity, and this element is inimical to most consumptives, though there are exceptions to this, as to all rules, and in some cases the other advantages, chiefly non-climatic, may enable them to get well in spite of the dampness.

Equability involves both humidity and temperature. The most perfect examples of equable climates are found on sea islands in high latitudes during summer weather. For instance, the Bahamas in winter, and Nantucket in summer, are typically good climates of this class.

Sea shores come next, the most equable being those where the shore is shut off by hills from the drier land breezes,

but owing to their high humidity and their lack of ventilation, they are most enervating, while those on which the winds blow freely from both land and sea are more bracing but at the same time less equable and more treacherous.

On ship board while the patient is under the influence of constant equability of humidity there is necessarily during most voyages and seasons great variations of temperature and wind pressure, while these factors may be healthfully stimulating, yet they cause sea voyages to be less beneficial than residence on sea islands, for those persons for whom a constant equability is desirable.

On a sea shore precipitation may be light and the humidity high, as in Southern California, with its morning and evening fog. On the Riviera there is less fog and more rain.

The fact that cold rather than heat is beneficial to tuberculosis has been proven the world over. There are exceptions to this rule and some cases are more benefited in a warm climate than in a cold one, but cold nights and warm days give the desirable climate for most. The arresting effect of intense cold has been shown in cases of persons with tuberculosis who went to the Arctic regions. The good effects of cold have been dwelt upon by Hirsch and many others. We all know the benefit of arousing the nervous system. Lying beneath almost every case of tuberculosis are nervous irregularities. If you will investigate the history of most cases you will find they originated in a condition of nerve-tire. If you can relieve this condition you remove the predisposing cause of the disease. Place one of these individuals in a warm, damp climate and the effect upon him is very marked indeed. He does not care whether he gets well or not. But put him in a cold, invigorating climate and you will have him fighting for his life and he will do it well. That the cold air is better than the warm air has been well illustrated at the Massachusetts State Sanatorium at Rutland. It is surprising the benefit there derived from the cold air. Some of the patients have their beds arranged on a slide so that they can be made to slide out of the window exposing the head and throat, while their bodies remain protected in the room. Of course, there are exceptions, owing to some condition of the disease peculiar to the individual. For instance, in advanced cases, the patients being left with limited lung capacity; are usually better off in a warm than in a cold climate, though in either case dryness is

also desirable. Nevertheless, a still more limited number live longer in a moist equable climate of moderate temperature.

As you go higher, as the air becomes dryer, you have cool nights, cool shade and hot sunshine. It is no exaggeration to say that in Colorado in the winter you can lie on a dry mountain side and put your bottle of wine near you in a snowbank while you are warm and comfortable in the sunshine. It would appear to many to be a dangerous thing to encounter such differences between sunshine and shade, but on the contrary, it is a beneficial thing for most consumptives, for they receive cold dry air into their lungs while sunheat and light is on their bodies. Sunstroke is due to the length of the spells of heat rather than to the intensity of the heat for a day or two, so that the heat of the sun is actually beneficial to many, especially in connection with dryness of the air and cool nights.

There are blood changes that result from change to a high altitude, which I believe to be real and permanent, although there are a few others who believe that they are only apparent and temporary. Undoubtedly the first increase of red cells is due to the mechanical effect of alternating pressure, but this increase persists, and in the deeper vessels of animals resident in high climates the same condition has been found and, moreover, the hemoglobin is also increased. Even granting these changes are only compensatory, apparent and temporary, why should they not stimulate the individual to real blood regeneration, the same as does massage, cold baths and iron. While iron is of great value in curing anemia, yet it is difficult to tell how the result takes place, but it is reasonable to believe that if the iron is supplied for a time, the blood is fortified, thus it begins once more to absorb it from the food, and so it may be with the raising of the standard of the blood by residence in high altitudes.

After a prolonged residence, however, particularly if there occurs some depression of health from disease or overwork, the blood begins to deteriorate again and then the patient is benefited by a change, for a time, even to a worse climate. It is the duty of the physician to recognize when the patient shall need a high altitude and for how long. These blood changes are practically completed in a month, and the same time is taken in reducing them when a person goes down from an altitude to sea level. A month's absence, for this reason, is often of great value, while an absence of six or eight weeks is

not beneficial. It is, therefore, usually best to let the patients go away for not longer than a month the first time and if they return improved and keep improving, permit them later to make a longer visit.

No one climate is suitable to all cases. Tuberculosis attacks all sorts of people and under all sorts of circumstances, therefore, all sorts of climates are needed. With some, it is better not to send them away from home at all, because the better care at home more than offsets the advantages of the change of climate. Physicians often treat the subject of climatic change too lightly, when called upon to consider whether their patients shall remain at home or change their climate. The patient also is not sufficiently impressed with the importance of the question or does not give the physician time enough to properly weigh the matter. Again, the consultant, in the brief time he sees the patient, does not learn to know him as an individual, to recognize and allow for his mental, moral and social qualifications for making a change of climate. The pulling of patients up by the roots and sending them traveling without due consideration is often a great wrong and the outcome disastrous, though the fatal termination may be so long postponed that the initial cause, viz, the doctor's mistake, is often forgotten.

To appreciate what a climate is, it is necessary to know its meteorology as well as its topography and resources. The meteorological conditions are now being very well recorded by the United States Bureau and by volunteer observers, though much is yet to be desired. In selecting a place for your patients, you want to study these records, do not send them to a place simply on the statements in the literature sent out by the hotels and railroads, though these often contain valuable facts. Climatology is a science and if you have the data you can build up a climate for yourself. It is useless to tell you that it is dry if the records prove that it is damp. Take Southern California, for example, for years it was called a dry climate, but it is not a dry climate in the way in which it is claimed. There is fog morning and evening. The humidity is low during midday but it is high during the rest of the twenty-four hours. Southern California is an extremely valuable climate for many people, even for some cases of tuberculosis, though in most of these it does more harm than good. The residents are now beginning to recognize this and

are trying to push the tuberculous patients away from the coast. Inland California is very much better for them, as has been said. If you wish to send your patients into a sea air, they are generally more benefited on the islands than on the seashore.

Of other diseases besides tuberculosis, many are greatly benefited by a change of climate. Kidney diseases are sometimes cured and often greatly relieved. Many get well in Colorado, but more do well in Arizona.

In heart disease you are told that a high climate is bad, that such patients should be sent to the sea level. It is true of many but not of all cases. It appears that in those cases that are benefited, the good result is due to the diminished blood pressure.

Chronic rheumatism is often greatly benefited and certain nervous diseases are often much improved in the altitudes.

How are you going to learn about climate? I am raising this question at the American Climatological Association at Philadelphia in a few weeks. I wrote to nearly all of the medical colleges asking the question, if they gave any instruction in Climatology. Many replied that the professor of the practice of medicine touched upon the subject, but no books were recommended and there was no course of lectures devoted to it. In fact, the subject is at most entirely ignored in the schools. Of course there is a very powerful plea against its being inserted in the curriculum because the students have too much to learn now in the time, and they would have to cut out something else in order to put this in. It might be a little like the story of the old peasant whose wife was killed by the train while driving home their cow. A sympathetic visitor calling upon the old man expressed her grief at the loss of his wife, but he did not seem greatly concerned. He remarked, "It might have been worse—it might have been the cow." So, in the opinion of the professors to place Climatology in the curriculum, some more valuable study must be omitted. But I do not believe this is necessary. It would suffice to give students a foundation of knowledge so that they could intelligently investigate the matter of climatic change when occasion required in the future. This modicum could be given in three or four lectures and some of the time saved by giving up the present desultory talks upon climate. Further, in order to insure that the students paid proper attention to these lectures, one or two questions upon Climatology should be set in the examination papers.

LEADING ARTICLES.

MIND CURES AND MENTAL THERAPEUTICS.

This important subject has recently been treated in two original articles (*Boston Med. and Surg. Jour.*, August 18, 1904) and a résumé of their conclusions will be of general interest.

Edes points out that there are two poles in medical journals around which medical thought is grouped, namely, mental and psychological cures and polypharmacy. He argues that as psychic treatment in one form or another occupies the public mind it must be considered professionally.

He asks the question—what are the real physiological or pathological processes over which mental action, intellectual or emotional, can be supposed to have any effect?

Fever, and processes of nutrition are uninfluenced. On the other hand, secondary anemia may in an indirect way be influenced by psychological stimulation. But pernicious anemia is not amenable to this form of treatment.

Psychic influences have much effect on secretion, whether that is the gastric juice or the urine. On the movements of the alimentary tract also mental conditions have much influence. In the field of nervous diseases there are many varieties of disorders more or less amenable to this treatment, but its actual power is much overrated and its effect is too commonly exaggerated.

In psychic treatment two diagnoses are necessary, that of the disease and that of the patient. "One practitioner cheers his patient by judicious pleasantries, another by a carefully reasoned exposition of the grounds upon which his recovery is to be confidently looked for, another by religious influence; one by hypnotism, another by non-hypnotic suggestion; one quacks by the confident repetition of an absolutely unsupported and probably absurd assertion, another by absolute silence."

The essential part of the process is the implanting not merely in

the patient's reasoning and conscious mind, but what is called the subliminal consciousness. The recent work of Breuer and Freud illustrate what may be done on rational grounds. They have used a method which probably has little relation to hypnotism, but upon successive sances of inquiry and upturning of the subliminal consciousness.

The remedial value of a full and free confession even of some trivial affair should be generally recognized by the profession. There is little choice as to the doctrines taught by different sects, but should not be too repugnant. A strenuous repetition of a positive assertion seems an absurd method to be advanced when unsupported by an argument proof or illustration, but as to its efficacy in many cases there can be no doubt. The modern mechanical means by their frequent repetition probably often acts this way.

To account for the hundreds of assertions of cures is by no means difficult, statistics in such matters are not trustworthy. There is such a very considerable percentage due to imaginative but entirely honest exaggeration. Even Darwin deplored that facts which supported his hypothesis were remembered by him more easily than those which were evidence against it. This is a common human error.

Edes concludes : As regards the every day practice of medicine with its very great proportion, among the acute cases, of infections, and among the chronic infections and degenerations, scleroses and new growths, psychic therapeutics as a primary and essential treatment finds but little scope, while as an adjuvant to the healing forces of Nature and time it is and always will be a most precious resource to the physician, and he who wields it most judiciously will be most successful. Among the psychoses, notwithstanding there are many and great limitations even upon the side which we must consider functional — though any day some new method may show us the incorrectness of this view, the relation is reversed, and the physician must look upon the building-up process and the various appliances in use, pharmaceutical and otherwise, not only for their real and direct, but for their mental impression."

THE FOUL BREATH.

Too often a foul breath is attributed to a disordered stomach, when the cause is not in the in the gastrointestinal tract at all. There

can be no doubt that the fetor of the breath is most commonly due to disorders of the mouth—bad teeth, diseased tonsil or to disease in the nose and throat. Tonsillitis is often accompanied by a stench; so also is acute or chronic inflammation of the pharyngeal tonsils. A coated tongue does not indicate that the liver is the seat of the trouble, and a foul breath should only be considered of gastric or intestinal origin when there is no lesion in the mouth, nose or throat.

Certain diseases of the respiratory tract, as phthisis, bronchiectasis, abscess or gangrene of the lungs have foul breath, varying in the degree of offensiveness, as the usual symptoms. In uremia and certain forms of sepsis a foul breath is common.

Only when all these sources have been excluded should we pay attention to the alimentary tract, according to Rosenheim (*Ther. d. Gegenwart*).

Fetor of the breath does not accompany the usual diseases of the stomach if the mouth is healthy, hence it is in the intestine, where decomposition is brought about by bacteria, that the origin of the alimentary fetor must be sought. Most of the disorders in which extensive putrefaction takes place also show some intestinal symptoms, but occasionally persistent fetor of the breath may have an intestinal origin with no symptoms referable to this organ. It is, then, only by a process of exclusion that the diagnosis can be made.

THE TREATMENT OF APPENDICITIS.

Ochsner's method is deservedly becoming the most popular form of treatment, and we hereby append his suggestions for the treatment of appendicitis with a view of reducing the mortality (*Jour. Michigan State Med. Soc.*):

1. Patients suffering from chronic recurrent appendicitis should be operated on during the interval.
2. Patients suffering from acute appendicitis should be operated on as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, and a competent surgeon is available.
3. Aside from insuring a low mortality this will prevent all serious complications.
4. In all cases of acute appendicitis, without regard to the treat-

ment contemplated, the administration of food and cathartics by the mouth should be absolutely prohibited and large enemata should never be given.

5. In case of nausea or vomiting or gaseous distention of the abdomen, gastric lavage should be employed.

6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of beginning diffuse peritonitis, conclusions four and five should always be employed until the patient's condition makes operative interference safe.

7. In case no operation is performed neither nourishment nor cathartics should be given by the mouth until the patient has been free from pain and otherwise normal for at least four days.

8. During the beginning of this treatment not even water should be given by the mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later, small sips of very hot water frequently repeated may be given and still later small sips of cold water. There is danger in giving water too freely and there is great danger in the use of large enemata.

9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by the mouth, as well as the use of large enemata, in cases suffering from acute appendicitis.

10. It should be constantly be borne in mind that even the slightest amount of liquid food of any kind given by the mouth may give rise to dangerous peristalsis.

11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid predigested foods in the market, dissolved in three ounces of warm normal salt solution introduced slowly through a soft catheter, inserted into the rectum a distance of two or three inches.

12. This form of treatment can not supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is greatest into another class in which the mortality is very small after operation.

In employing rectal feeding it is important to follow a definite plan, which an experience with a very large number of cases has dem-

onstrated, to give the best results with the least amount of annoyance to the patient.

It has been found that any one of a number of reliable liquid predigested foods in the market is much better than a mixture of milk and egg and various other foods which are frequently employed. The quantity should be small. Usually an ounce of predigested food, dissolved in three ounces of normal salt solution, is most readily borne by the patient. It is usually best to give this every four hours and if the patient is suffering from thirst, an enema of from eight to sixteen ounces of normal salt solution may be given half way between feeding until the thirst has subsided.

A soft rubber catheter, No. 8, English, should be attached to a funnel or to an ordinary one ounce glass syringe. It should then be thoroughly lubricated with oil or vaseline and inserted into the rectum not more than two or three inches. Then the food should be poured into this funnel or syringe and should be permitted to enter the rectum by its own weight. Many patients who are greatly disturbed if the food is forced into the rectum with a syringe can be fed by the method just described with perfect comfort. In case, however, the patient retains the nourishment temporarily, the rectal feeding is interrupted for twelve to twenty-four hours.

PYROPLASMOSIS HOMINIS.

The investigation of Wilson and Chowning of the disease known as "spotted fever" or "tick fever" of the Rocky Mountains represents one of the most important, complete and illuminated studies by American workers. It has unusual importance, from the point of view of comparative pathology, because of its relation on the one hand to the malaria of man and on the other hand to the malaria of cattle—"Texas fever."

In 1901 these writers (*J.A.M.A.*, Vol. 39, page 131) described the disease in detail and announced the discovery in the blood of a protozoan organism which they have since named *pyroplasma hominis*. Contributions to the subject have also been made by Westbrook (Report of the Minnesota State Board of Health, 1901-02), Cobb (U. S. Public Health and Marine Hospital Service Report, 1902) and J. F. Anderson (*Amer. Med.*, September 26, 1903; Bulletin No. 14, Reports of the U. S. Public Health and Marine Hospital Service).

The present report (Studies in Pyroplasmosis Hominis, *Jour. of Infec. Dis.*, Vol. 1, No. 31) is an attempt to give a conclusive summary of all work done upon this disease. The writers suggest as a proper name for the disease pyroplasmosis hominis, since the disease is the first described infection of man by a pyroplasma and also because the term "spotted fever" is already applied to several other diseases of man. The term "tick fever" is likewise objectionable because it has been used as a synonym for "Texas fever" or the malaria of cattle. The disease is particularly confined to the eastern foothills of the Bitter Root Mountains of Montana, an area four to ten miles wide and fifty miles long, and in Idaho along the southern foothills of the Boise Mountains. Isolated cases have also been discovered in Nevada and Wyoming. The disease occurs chiefly in the spring, from March until July, being most prevalent from the middle of May to the middle of June. The previous condition of the patient, sex and age bear no relation to infection except such as might be explained by exposure from occupation.

The disease follows the bite of a tick, and the patient always gives a history of a soreness about the tick bites with pains radiating from them. In from two to seven days after the bite the initial chill appears. The chill is usually severe at the beginning of the attack and recurs at irregular intervals with decreasing severity, and is accompanied by pain in the bones, muscles and joints. Other symptoms are headache, constipation and considerable restlessness. The fever, resembling closely that of typhoid, reaches 103 to 104° the second day and after five to seven days may rise to 107° . The recovery is usually by lysis, much as in typhoid, which begins about the second week and reaches normal two to four weeks later. The eruption appears from the second to the fifth day, first about the wrists, ankles and back, then extending over the entire body, the abdomen being involved last. The macules are first rose colored and consist of circular spots varying in size from 1 to 5 millimeters in diameter, are not elevated and disappear on pressure. Later, they assume a dark bluish or purplish color, are permanent and frequently confluent. Desquamation begins about the third week and is slight except over the most affected areas. Some cases are complicated by gangrene. Moderate anemia exists.

The mortality of the severe cases is 70 to 80 per cent; mild cases

usually recover. The morbid anatomy presents no characteristic points except enlargement of the spleen, and parenchymatous degeneration of heart muscle, liver and kidney.

The cause of the disease is a hemocytozoan closely resembling *pyroplasma bigeminum* (Smith and Kilbourne) of the malaria of cattle, or "Texas fever," as it is better known. They may be found in the plasma of the blood or in preparations stained by Laveran's or by Nocard's method. The smallest forms (phase 1) appear as hyalin masses and when found free in the blood plasma may be mistaken for diplococci. When in the cells they are ovoid in form and from 1 to 2 μ in length by 1 μ in thickness. Two parasites are usually present in one cell although as many as sixteen have been found. These small forms have occasionally been seen to change their position in the cell although the presence of pseudopodia or other evidence of ameboid action has not been observed. The larger forms (phase 2), however, present an active ameboid movement. It measures 2 to 3 μ in thickness and 3 to 5 μ in length, and is solitary in the cell.

The organism has been inoculated into rabbits and in one animal persisted in the blood for sixteen months. The animals which die of the infection show swelling of the spleen and hemorrhages beneath the skin.

There is no evidence that the disease is transferred directly from man to man or by means of the respiratory, digestive or genito-urinary system. In all cases the disease is associated with tick bites, and all evidence indicates that the infection is transmitted in this way. While the writers have not demonstrated the presence of the pyroplasma in the tick they have frequently found in the spermophile (*spermophilus columbianus*), a common rodent of the Rocky Mountains, a hemocytozoan indistinguishable from that found in "spotted fever." The spermophile is said to harbor great numbers of ticks. The parasites have been found in the blood in 20 per cent of the spermophiles and have not been found in other animals examined. They also have not been found in uninfected districts. The writers, therefore, believe it possible for this rodent to be the temporary host of the pyroplasma and that the transmission to man takes place by means of the tick.

An attempt to explain the transmission of another disease by ticks is made by Christy (Thompson Yates and Johnston Laboratories Reports, V, 187, 1903) of the Liverpool School of Tropical Medicine.

He found in the Uganda Protectorate, a tick (*argas moubata*) known by the natives as "bibo." The bite of the tick was followed by definite symptoms—vomiting, purging, headache, pain in the abdomen and fever. Its distribution agrees with that of *filaria perstans* which is frequently found in the blood of the natives, and he believes it to be the intermediate host of this parasite.—*Albany Medical Annals*.

THE SILVER ANTISEPTICS.

Coblentz (*Jour. Soc. of Chem. Industry*) give the following interesting information on the newer silver antiseptics:

Although one of the standard remedies for the treatment of inflammation of the mucous membranes, silver nitrate possesses an irritating and often caustic action, which has greatly restricted its field of application. Aside from this, it has only a limited penetrating power, due to the fact that it is precipitated by albumin and sodium chlorid, two of the ordinary constituents of the secretions and tissues. This is a serious disadvantage, since many of the conditions in which it is employed are due to micro-organisms, which are found not only in the superficial, but also in the deeper portions of the mucous membranes, and hence can not be reached by the solutions of this chemical, owing to the formation of an insoluble silver albuminate in the upper layers. The recognition of these drawbacks is responsible for the host of substitutes for silver nitrate which have been introduced in recent years. Most of these represent combinations of various percentages of metallic silver with different proteids. They are all said to be less irritating than the nitrate, and unaffected by either albumin or sodium chlorid.

I.—ORGANIC COMBINATIONS.

Albargin (Hoechst Farbwerke).—A gelatose silver containing 15 per cent of the metal, which is prepared by mixing a neutral solution of glucose with silver salts and precipitating with alcohol. Neither hydrogen sulphid nor boiling with alkalis produces any reaction, while chlorids produce only opalescence.

Argental (F. Fritzsche, Hamburg).—An oxyquinolin sulphate of silver ($C_9H_5N.OH.SO_3Ag$), contains 32 per cent of the metal.

Argyrol (Drs. Barnes and Hille).—A non-irritating silver vitellin, which contains 30 per cent of silver.

Argonin (Hoechst Farbwerke).—A casein-silver compound, which contains 10 per cent of metallic silver. This yields very stable aqueous solutions.

Largin (Merck).—Protalbinsilver containing in the air dry condition 11 per cent of the metal.

Nargol (Parke, Davis & Co.).—A nucleid of silve containing 10 per cent of the metal.

Protargol (Elberfelder Fabriken).—A silver proteid preparation, containing about 8 per cent of silver in a fixed combination. Not precipitated by albumin, chlorids or alkalis; it possesses great penetrating properties.

Ichthargan (Ichthyol Gessells.).—A silver ichthyol sulphonate. Contains 15 per cent of sulphur and 30 per cent of silver.

Argentamine (Schering, Berlin).—A solution, of one part of silver phosphate and one part of ethylen diamin in 10 parts of wa'er; 10 parts correspond to one part of silver nitrate.

Silberol.—Silver sulphophenate (1.4) obtained by action of a solution of phenol sulphonic acid on silver carbonate.

Itrol and Actol (von Heyden) —Citrate and lactate of silver.

II.—INORGANIC COMBINATIONS.

Tachiol.—Silver fluorid. It is claimed that this destroys pathogenic organisms in solutions of 1/200,000.

Collargol (von Heyden).—Colloidal silver which contains 90 per cent of the pure metal. The preparation is completely soluble in water, is employed locally, subcutaneously and in ointment form. According to Henriot (Chem. Zeit., 1903, 686) collargol is not an allotropic form of silver, but the alkali salt of collargolic acid prepared from Paal's lysalbate of silver. Colloidal silver prepared by different methods deports itself differently.

EDITORIAL COMMENT.

Medicine Manufacturers and the Laity.

Judging from the increasing number of proprietary medicines, whose value has been attested by physicians, which are being advertised to the laity, the greed of manufacturers or the competition of the trade is having a mortal effect on the congenial co-operation of physicians and manufacturers in the progress of therapeutics. It is a sad fact that physicians must be continually on the alert in order to prevent their giving support to unscrupulous manufacturers. In fact, it has been assumed in the business world that the best means to introduce a new patent medicine is to advertise it to physicians, each of which thus becomes an advertising agent for their products. Having started this general agency and making the people in general familiar with the preparation, the manufacturer takes advantage of its popu-

larity and introduces methods to eliminate the physician by advertising his drugs to the laity and giving large pamphlets containing full directions for its use in plain language, allowing each individual to make his own diagnosis.

We must again and again protest against this practice. As physicians we should adopt an iron rule to prescribe no drugs made by any manufacturing concern which advertises its products to the laity. If physicians would generally heed this rule the practice would soon be abolished.

Sending Medical Journals to the Laity.

This method of advertising is becoming too common. We understand that a local medical journal, the editor and proprietor residing in New York City, can be bought at news stands the same as a literary magazine. In fact, it has been shown that this publication is mailed direct in large numbers to the laity. The only object of this could be that it is found profitable to send a journal which in its columns exploits certain proprietary medicines (in which the editor and proprietor of such journal is financially interested) to the people in general, thereby increasing the sale of his nostrums. •

No ethical medical journal would stoop to such methods to increase its circulation. A medical journal must always have the interest of the medical profession as its unshaken basis, and its circulation must be limited to physicians. The scientist in general can have no interest in a publication which has for its object the promulgation of the practice of medicine, and why direct the attention of the laity to its columns? They could not understand; their interpretation would most likely be erroneous, and unquestionably only harm could result.

The only way is for the profession and advertisers who manufacture products exclusively for the profession to refuse to patronize publications which permit almanac features to creep into its scientific columns.

The Carelessness of Medical Writers.

But this journal has contributors who rank high in the medical profession. How are these original contributions obtained? The answer is that that journal pays for them. It can well afford to pay

liberally for them, and it probably pays a higher rate than any other medical publication from the fact that its literary pages are largely occupied with commendations of such medical products. But what astonishes us is how readily prominent medical writers will yield to the influence of a check, forgetting entirely the interest of the medical profession at the sight of glittering lucre.

When a physician is requested to contribute to a medical journal the first question which he should ask is the standing of the journal as regards ethics and science. Unfortunately, many medical writers do not ask this question. The gold is sufficient and they do not seem to realize that in contributing to the *medical almanacs* they do a great injustice to the reputable medical journals, who take pains to exclude all illegitimate unscientific medical advertising from their scientific columns. It is, in a measure, also a betrayal of that general professional confidence which assumes that every medical member will do nothing derogatory to the interest of medical science. Then why do you do it? Why are the columns of this *medical almanac* so attractive when there are hundreds of medical journals which can point with pride to the cleanliness of its sheets.

Whither Is Medical Journalism Drifting?

Or shall we indeed expect that back of every medical publication must stand some money-making influence? Sometimes it appears so. Shall the literary pages of medical journals in the future be controlled by manufacturing chemists? We trust not. The editorial and scientific pages must be wholly uninfluenced by any such forces, or else practical medicine must rapidly sink to the methods of the grocery store and dry goods' counter.

Hence, it behooves the medical profession to discourage in every way those publications which obviously reveal the influence of the manufacturer. Patronage to such publications should be discontinued and no reputable medical writers should allow his name to appear in connection with an original article.

The Departure of Professor Osler.

We hear with great sorrow of the intended departure of Prof. William Osler, of Johns Hopkins Hospital, to accept the position of

Regius Professor of Medicine at Oxford University, England. America loses her master and we are not sure that his place can be filled. Medical science, however, will not suffer, since at his new office he will be in a position to draw on the immense clinical material gathered and we shall be surprised if he fails to give us some important generalizations in the future, when he will be able to devote himself more to literary pursuits and be free from the arduous duties of hospital chief and consultation practice.

The Progress of Physical Therapeutics.

In an admirable paper, Pratt (*Boston Med. and Surg. Jour.*, No. 1, 1904) rehearses in a general way the progress of hydrotherapy and other forms of physical therapy. These forms of treatment have become generally popular as soon as their physiological basis has been worked out. The thoroughness and critical methods applied to these are unrivaled and their physiological actions are becoming as well known as the common drugs of the materia medica.

To Winternitz the chief credit is due for making hydrotherapy a science. Nutrition therapy, as von Leyden called it, is probably one of the most highly-developed and most successful forms of physical treatment. To Long belongs the honor of introducing medical gymnastics. Zander invented mechanical gymnastics; Junod and Pravaz laid the foundation of pneumotherapy; Duchenne and Erb gave electrical treatment its start, and Finsen has stimulated research in light therapy. Then we have the rest therapy, work therapy, exercise therapy and hot air bath treatment.

Throughout the world interest in these methods is increasing. Large volumes are written on the subject and the ablest teachers are giving their earnest support to the methods. It is expedient, therefore, that the modern physician become acquainted with the principles of the various physical methods.

The Effects of Borax Upon Health.

It will be recalled that Dr. H. W. Wiley, Chief of the Bureau of Chemistry of the Agricultural Department, made a careful series of experiments to determine the effect of borax on health. The experi-

ments were made on a band of young men, twelve in number, who, while following their usual vocations, agreed to eat the foods prescribed by Dr. Wiley. The diet was variable and the experimental preservative in the form of borax and boric acid was administered in known quantities mixed with the food. The rations of each member were carefully analyzed and the excreta were also collected and quantitatively analyzed. We have room only for his conclusions:

The logical conclusion which seems to follow from the data at our disposal is that boric acid and equivalent amounts of borax in certain quantities should be restricted to those cases where the necessity therefore is clearly manifest, and where it is demonstrable that other methods of food preservation are not applicable, and that without the use of such a preservative the deleterious effects produced by the foods themselves, by reason of decomposition, would be far greater than could possibly come from the use of the preservative in minimum quantities. In these cases it would also follow, apparently, as a matter of public information, and especially for the young, the sick, and the debilitated, that each article of food should be plainly labeled and branded in regard to the character and quantity of the preservative employed.

The Oshner Treatment of Appendicitis.

The treatment of appendicitis inaugurated by Dr. A. J. Oshner, of Chicago, is really based on the principles of the conservative surgeons of Europe and seems to be destined to supplant the dicta of the so-called radical surgeons. Dr. Oshner has recently reported the results in 2,000 cases with a mortality of a little more than 2 per cent. No further argument is necessary and the popularity of his method is assured. We had become somewhat weary of the surgeons' censure; for when death followed the operation the excuse always was that he was not called early enough. The radical surgeons kept up this stale argument for several years. All deaths from appendicitis following operation were laid at the door of the family physician who had not insisted on an operation early enough. The surgeon did not sufficiently consider the cases which are treated simply as "bellyache" for one or two days before the physician is called; and the diagnosis is by no means so certain at the first visit as to demand a hurried departure to the hospital, a general anesthetic, a major operation, etc.

Dr. Oshner admits that when he is called in forty-eight hours before the appendix has ruptured he operates at once, but the vast majority of cases do not come to him early. These are best treated by dietetic and hygienic means until the acute symptoms subside and until the appendix and the exudate is walled off from the intestine—then operation is safe. In a Leading Article in this issue we publish his rules for reducing mortality.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Diseases of the Rectum and Anus.

Hirschman (*Detroit Med. Jour.*, August, 1904) lays great stress upon an ocular examination of the rectum. Among the symptoms that call for an examination are—indigestion, loss of appetite, flatulence, constipation, intestinal aching, pains throughout the sacral and pelvic regions, spasmodic or constant dysuria, changed appearance of fecal excretion, such as presence of mucus, pus or blood. In children—restlessness at night, picking the nose, precocious appetite, scratching or fingering the rectum, anus or genital organs. The patient should be put in the shoulder knee position. A few drops of a 1 per cent solution of cocain or eucain may have to be used. By this examination we may find ulcerations, excoriations, polypi (especially in children) tumors, inflamed areas, fissures, etc. Hypertrophied valves may be thus observed.

The Gastrodia-phane in the Diagnosis of Certain Gastric and Abdominal Affections.

Rattermann (*Cin. Lancet Clinic*, April 2, 1904). The gastrodia-phane is an instrument for the illumination of the inside of the stomach. Its rays permeate the tissues of the stomach and abdomen and cast a shadow outline of this as well as other abdominal viscera coming between the line of light and the vision upon the abdominal wall. It is used preferably in a dark room, the patient lying down or standing up. It is not more difficult to swallow than an ordinary stomach-tube.

Lean patients are the most satisfactory. The operator should

pass a stomach tube several days prior to its use, and it should be used cautiously in cases of gastric ulcer, never if blood has been vomited or passed, never in severe cases of heart disease or chronic bronchitis in the aged, or the very weak. It is not absolutely necessary that the stomach be completely empty. The size of the gastroduaphanic picture depends upon the quantity of water in the stomach; the greater the amount the larger the picture, and *vice versa*.

Dr. Kuttner has had several cases of suspected carcinomas of the anterior wall of the stomach, verified by operation, in which the only sign was that the gastroduaphanic shadow, in places, was very dark; in fact, in some spots the light did not penetrate at all, and yet by palpation no tumor could be felt. It can often be used as the closing link in the chain of investigation of certain gastric or abdominal conditions or diseases.

Rigg's Disease (Pyorrhœa Alveolaris).

Somvers (*N. Y. Med. Jour.*, July 30, 1904). Ordinarily the malady makes its approaches insidiously and does considerable damage before its annoyances cause the patient to take professional advice. Recurring tenderness of the teeth, making mastication uncomfortable, accompanied by slight soreness of the gums, is referred to the taking of slight colds or to the stomach being out of order, and the first reason for the seeking of counsel is often that the patient has noticed the receding of the gums from certain teeth, or that the use of the tooth brush or even slight pressure by the fingers, occasions bleeding; or, again, the occurrence of pain, in character resembling that experienced when exposed dental nerves are subjected to varying temperatures, when food or fluids of slight coolness, or on the contrary, lukewarm or of any degree of heat beyond and having its habitat on the lateral surfaces of the teeth will forcibly notify the sufferer that action of some kind is essential. On examination the mucous membrane is found red, shining, swollen and appears to hang in folds; and to the patient, when impact is made by the tongue, suggests that pus or fluid of some kind must be present. When touched by the finger the feeling of sodden tissue is given. Slight pressure over the diseased area when the trouble has progressed sufficiently will elicit a slight purulent discharge even in very mild cases.

As a matter of precaution the physician who is consulted in regard to repeated formation of furuncles in the buccal cavity, particu-

larly if he finds small, congested, teat like elongations of the gums projecting unnaturally high up between the teeth, most noticeable commonly in the lower incisors and canines, should be suspicious of the presence of this complaint.

Xanthoma.

Shoemaker (*Jour. Am. Med. Ass'n*, August 27, 1904) reports a case of xanthoma and reviews the classification—planum and tuberosum, which the character of the lesion, plane or raised, has suggested. Xanthoma planum are smooth, sometimes slightly elevated and of a yellowish hue, which has been aptly compared to that of chamois leather. The lesions may be round or elongated, small as a pin head or large as a pea or even larger. Xanthomatous skin does not seem to be thickened when pinched up between the fingers. After attaining a certain size the lesions generally cease to grow. Cases in which the disease is limited to the eyelid are much more common than those more widely distributed. Xanthoma is more frequent in women than in men. The most usual site of commencement is on the inner canthus of the eyelid, and more particularly of the left eyelid. Urticaria pigmentosa has sometimes been confused with xanthoma. The wheels of urticaria are of a finer consistency than the tubercles of xanthoma. Itching is a much more prominent feature in urticaria.

Myelitic Symptoms Occurring During Puerperium.

Gordon (*Am. Med.*, August 20, 1904) relates two incidents of myelitis of infectious character from disregarded purulent infections from vaginal tears. Both recovered, but not until the local suppuration was dealt with. One case was mild, the other was unmistakable, having paraplegia, rigidity, increased tendon reflexes, ankle clonus on one side, marked sensory disturbances, Babinski sign one side and, finally, bladder and rectal disturbances. Neither case had been diagnosed. One conclusion is "the occurrence of myelitis or other spinal symptoms during the puerperum and caused by improper management is a possibility."

Diagnosis of Gastric Cancer.

Orloffsky (*Ibid.*) maintains that the so-called tryptophanic reaction of the gastric juice (bluish pink color on addition of chlorin water) occurs in benign diseases of the stomach like chronic catarrh and dilation. However, the reaction is more frequently met with in cancer of

the stomach. Far greater value attaches to the presence of albumin in the gastric contents after the test according to Salomon. The stomach is washed in the evening and the patient eats nothing until next morning, when 400 cc. (13 ounces) of normal salt solution is poured into the stomach through the tube. This fluid is removed at once and tested for albumin. In health and in benign diseases no albumin is present, while in cancer up to 5 per cent of albumin is found.

In chronic round ulcer of the stomach the reaction seems to be usually negative. In making this test we should aim at washing out the entire mucus of the stomach when removing the normal saline solution. For this purpose the funnel holding the fluid should be raised and lowered repeatedly. This test is a distinct advance in the diagnosis of gastric disease.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Treatment of Arthritis Deformans.

L. Kolipinski (*Med. News*, September 3, 1904) considers the therapeutic indications in this disease to be comprised under the relief of pain, correction of the muscular and articular stiffness and rigidity, increase of muscular strength and of body weight where this latter is necessary, cure of the anemia and symptomatic regulation of the pulse.

To successfully meet these conditions these agents are mutually indispensable. For pain, anemia, malnutrition and tachycardia, arsenic is to be employed.

For rigidity, contractures and muscular atrophy voluntary exercise is essential, while for the relief of general weakness, loss of weight, anemia and also pain, nutrition is aided by dietetic measures.

Arsenic should be used for a year or more in order to attain success and must be administered in such manner as to avoid symptoms of arsenical poisoning viz, edema nausea, vomiting, headache and diarrhea.

In the administration of arsenic two stages of the disease should be recognized; a mild polyarticular form, with pain and rigidity of no great intensity, and the monarticular variety, such as spondylitis deformans, malum coxæ senile and bed-ridden cases.

In the mild type Fowler's solution, in doses of one or two drops, three times a day, after meals, may be used for long periods, and after a month or so causes a disappearance of the pain, be they muscular, articular or neuralgic in character. The treatment must be then continued, however, without remittance. Zinc arsenite, one-twelfth grain twice a day, in pill form, may be substituted also for Fowler's solution.

In the second or severe variety of the disease the effects of arsenic *per os* are too slow and uncertain and the drug should then be given by hypodermic injection in the following manner: Three-eighths grain of solution arsenite and one and one-half grains of sodium chlorid in sixty minims of boiled water are injected into the lateral gluteal region every third or fifth day, and this treatment continued for one year. This procedure is painless and the solution so unirritating as never to result in abscess formation.

Secondly, it must be impressed upon the mind of the patient that rest for a limb is harmful, aggravating the disease by favoring immobility of the joints. Active or voluntary motion is always to be preferred to passive exercise.

In the mild form household duties, mannual occupations, with daily walks or rides meet the indications. With severe or advanced cases, bumb-bell or calisthenic exercises for the upper limbs and daily locomotion in increasing amounts for the lower extremities are necessary, even if on account of impaired knee or hip function, the aid of crutches or a cane is essential.

Kolipinski describes a simple device for restoration of the power of locomotion when abolished by partial ankylosis or muscular atrophy.

This consists of pedals, shafts and crank axle of a bicycle secured to a short upright bar and used daily by the patient seated upon a chair or astride a trestle. The shafts may be perforated with holes nearer to the central axis of rotation for fixation of the pedals in cases where at first the patient's movements are too restricted to permit the ordinary revolution. It may also be found necessary to secure the feet with straps to the pedals or to fix them by hand to prevent slipping before the acquisition of sufficient voluntary control of motion.

In the beginning twenty-five to fifty painful and restricted revolutions may be the limit of endurance, but gradual persistent exercise in this manner may in a few months attain a capacity for two thousand easy and rapid evolutions.

Lastly, in arthritis deformans there exists anemia, muscular atrophy and reduction of weight, and these factors can only be benefitted in great measure by increased nutrition through dietetic measures.

A liberal diet of meats, birds and game, fish, eggs and all vegetables is advised, together with the consumption of three or four pints of milk between the three regular meal hours, or at night. Desserts and fruits, excepting watermelons, should be forbidden, since an intestinal irritation may be excited with resultant loss of appetite. Malt liquors, wines and strong spirits are interdicted because of the danger of a gastritis or at least a gastric hyperemia.

Kolipinski rightly considers local applications such as salicylic acid preparations or oil of wintergreen of only temporary value as anodynes and states that for this purpose even the most efficient agent is the emplastrum hydrargyri, U.S.P. Its action upon local pain and stiffness is quite marked, especially in involvement of the vertebræ column, the sacroiliac and sacrococcygeal articulations and may be used freely without danger of mercurialism.

Oil Cure of Phthisis Pulmonalis.

Thomas Bassett Keyes (*Pacific Med. Jour.*, Vol. XLVII No 5) considers pulmonary tuberculosis essentially a disease of malnutrition and that before the germ can grow there must be a pretubercular condition. Consumptives do not eat oils, fats and cream in sufficient quantities and the most successful sanitariums have of late years adopted a plan of forced feeding, aided by outdoor life to promote the appetite and place the body in condition for greater absorption of fats. The whole cure of the disease depends upon the ability to nourish the patient and the methods of Dettweiler, Von Leyden and Hoffman, of Germany, advocate forced diet, regardless of appetite. Yet, anorexia is one of the chief obstacles to a cure and the consumptive inclines to a reduction of the fats in his diet and in advanced cases is unable on account of nausea to maintain nutrition thereby.

Keyes then cites a number of investigators among whom are Tarchetti and Spezia to show that the white blood cells possess a ferment or property which has the power of digesting fats and starches, or this power, chemical, phagocytic or osmotic.

Upon the digestion of oils by the blood Keyes bases his claim for a cure of tuberculosis by the subcutaneous injection of oil. He has used sterilized olive oil of high grade in preference to other oils be-

cause it is non-irritating and readily accepted by the system. Daily injections were made alternately over each scapula except when large amounts of oil were used, when it was necessary to utilize both points. Little pain was found to accompany the procedure, and within 24 hours the point of injection would scarcely be visible. Commencing with an amount of 12 cc. of oil daily, the dose is gradually increased to the individual patient's full tolerance, poorly nourished subjects often being able to assimilate large quantities of oil up to about 200 cc. daily.

Keyes has treated nine consecutive cases successfully by this method and has found within 24 hours after each treatment a remarkable benefit and amelioration of all symptoms, such as diminished morning cough and night sweats, increased strength and finally gain in weight. It is claimed that the oil is absorbed and assimilated by the blood cells and their number greatly increased thus meeting all indications for the cure of tuberculosis through augmented phagocytosis and re establishment of nutrition.

An ordinary aspirating syringe with reversed piston is used. Care should be taken in regard to the amount of oil given, since large doses, long continued, might result in fatty degeneration of certain organs. Keyes, however, calls attention to the probability that this would be a rare contingency since tuberculosis and fatty degeneration are of an antagonistic nature. To this procedure should be added also a forced diet of articles selected for their nutrient properties, such as meats, fats, butter, cream, etc., together with life in the open air and hygienic measures.

Aqueous Preparations of Menthol.

Cresantignes (*Jour. Am. Med. Sci.*) has found menthol to be a valuable antiemetic given in an aqueous solution without the addition of a large amount of alcohol. To prepare an aqueous solution he recommends this formula:

R Menthol..... gr. v
 Tinct. quillajæ..... ʒj
 Aquæ destil ʒv

M. By dissolving the menthol in the tincture, add a small amount of glycerin and then add to the water in small quantities at a time. Sig.—Shake well and take two teaspoonfuls at a dose. Several teaspoonfuls may be taken at a time if necessary as the amount of menthol in each teaspoonful is very small.

For external application the following combination is highly recommended :

R Menthol..... ʒv
 Tinct. quillajæ..... ʒiij
 Aquæ destil..... ʒvjss

M. Sig.—To be applied as a wet compress for a few minutes at a time, followed by a compress of fresh water.

As a gargle and mouth wash the following is recommended:

R Menthol.....
 Tinct. quillajæ aa ʒj
 Solutionis acidi borici (saturated aqueous)..... ʒvj

M. Sig.—To be used as a gargle or mouth wash.

Camphor as an Anesthetic.

Leredde (*Jour. de Med Interne*) offers the following formulæ for the use of camphor as an anesthetic for local use in itching affections:

R Camphor gm.j
 Oil sweet almonds..... gm.x

M.

R Lanolin gm.xc
 Camphorated oil..... gm.x
 Chloral hydrate..... gm.j

M.

R Zinc oxide.....
 Chalk.....
 Camphorated oil.....
 Lime water..... aa gm.xxv

M.

Yeast in the Treatment of Erysipelas.

Within the last few years brewers' yeast has proved an important remedial agent. Its most recent application seems to have been in erysipelas. Presta and Taruella (*Revue Francaise de Med. et de Chirurgie*, 1904, No. 8; *Zentral. f. Chirurgie*, May 21, 1904) report a number of cases in which very gratifying results followed its internal administration in daily amounts of from half an ounce to six drams.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of May 19, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. S. E. SOLLY, of Colorado Springs, Col., read a paper (see page 230, this issue) on

Climatology.

DISCUSSION.

Dr. CRANDALL had thoroughly enjoyed the discussion on climatology and fully agreed with the speaker on points, especially the last, that there is not enough attention paid to the subject in our schools. Undoubtedly all mention the subject in lectures on medicine and chest diseases, but as to the discussion of the subject in the abstract, but few schools take the matter up in that way. Another point well taken referred to the restricting of the number of patients sent away, that all patients should not be sent regardless of the conditions. The speaker had in years past occasionally sent patients to a different climate only to regret it. He does not make it a custom now to send all cases but considers everything bearing on the subject before deciding. It is useless to send a patient unless it is possible for the patient to go with a contented mind. Of course, as Dr. Solly had said, it is often encouraging to the patient to make a change and in that case it is beneficial. But if they are homesick, if the conditions are bad, if they do not know how to take care of themselves, or know how to clothe themselves and are lacking in the comfort they would have at home, it is no benefit but rather an injury to send them away. When a patient is sent away he should be given a letter to some physician in the vicinity so that he may have some one to consult. They should be given special instructions in regard to the climate to which they are sent. If they are simply sent to a hotel or boarding house with no instructions, they do not get the full benefit of the climate. If the patients can be sent to a location where they may carry on their occupation, it is a good thing for them. He had very recently been consulted by a patient who did not know whether to go to Colorado or to Arizona. The patient

volunteered the information that he had a position offered him in Colorado where he could continue his work, and the speaker sent him to Colorado. There is a great deal of benefit in occupation for those who are able. They should be instructed not to associate with tuberculous patients. A patient had better live in a tent than in the most perfectly equipped boarding house with other patients. All those things should be taken into careful consideration and, among the climates adapted to the patient, they should choose in a measure where they shall go. The Adirondacks are especially to be recommended for the reason that the patients are instructed very carefully in regard to the care of themselves, and they have devoted especial attention to this in all their little colonies. The speaker also frequently sent patients to Colorado. The physicians there are teaching their patients now how to live with tuberculosis. He makes it a rule to tell patients that they may continue to have some trace of the disease, that it may become latent, but that they may still be tuberculous and that there is a possibility that under some acute condition it may again become active, and they are instructed how to protect both themselves and others.

Dr. BOISLINIERE was particularly pleased with Dr. Solly's statement that no climate is adapted to all forms of tuberculosis, and again, that many patients will do better to return again for a short period. The climate sometimes is too dry for them. He mentioned a patient whom he had sent to Arizona eight years ago with an immense disturbance of the lung, a tremendous cavity, who every two years has to leave Arizona for a time and always returns greatly benefitted. Her apparent wellbeing with that tremendous cavity in the lung is simply astonishing. The general trend of thought seems to be that one climate is just as good as another. The speaker held that to be false. Whatever can be accomplished in climate like St. Louis can be accomplished with better results in a climate like Colorado or Arizona. He had lived for several years in New Mexico, where there are many cases of imported consumption, and many do very well in that climate. One man of his acquaintance was a deputy sheriff. He had an enormous cavity in the lung; he was in the saddle constantly, riding a hundred miles at times without leaving the saddle, and had done that for ten years. It was doubtful whether a man in that condition could have attended to his duties anywhere except under the influence of that

beautiful climate. He saw but two cases originate there. One was miliary tuberculosis which ran a rapid course. He saw no cases among the Mexicans. In their language there is no word for the condition.

Dr. ELSWORTH SMITH said that he had for sometime been very intimately acquainted with Dr. Solly's very able book and had listened with great pleasure to his talk. He hoped that Dr. Solly in his closing remarks would tell them something in reference to the point he made about the patients improving for a time in a high climate and then coming to a standstill and doing better for being sent away. The question that vexes the clinician is how long a patient should be kept in a climate. A great many think that if once a patient is sent away from home he should remain away permanently. Dr. Smith wished to know whether Dr. Solly thought the patient should be allowed to return home, or whether he should merely be transferred to another climate.

The point made as to a consultant was an excellent one, and another point was that the average medical man and medical student is not sufficiently instructed in this branch. If they were adequately instructed not so much responsibility would be thrown upon the consultant. He should be called upon to decide the matter of diagnosis, perhaps, in obscure cases, but he thought it was a difficult matter for the consultant to determine the question of personal equation of the patient. If the subject were more generally understood then each man could pass on that matter himself.

As to the effect of high climate on heart disease, he hoped the doctor would enlighten them more fully. It had always seemed to the speaker that in diseases of that kind it was a question of the blood pressure in the given case; in cases where there is a high arterial tension, as in arterio-sclerosis, he had always thought they should do well in a high climate. In cases of low blood pressure, as in valvular lesion, he advised against a high altitude.

Dr. BEHRENS regretted exceedingly to have come in so late that he had missed much of Dr. Solly's talk, which no doubt was very interesting and instructive. Physicians are too prone to send their patients to a different climate without instructions. They are sent to El Paso or Albuquerque, going into a community where they can not make a living and where they have no friends and under such surroundings

they do not get the benefits which should accrue from a change of climate. In the matter of sending patients to a consultant Dr. Behrens felt that he had been very remiss. When a patient goes to one of these health resorts after awhile he becomes dissatisfied and takes no care of himself. If he recovers it is a matter of good fortune, if he does not recover his physician has lost all interest in him. He had made it a point to visit some of these health resorts, Colorado Springs, for instance. He had sent patients to Dr. Solly's city, Colorado Springs, with much benefit in many cases. He had also sent patients to San Antonio and various other Texas health resorts. San Antonio has an altitude of only several hundred feet, with very peculiar conditions, a little creek running through the place, and used as a sewer, so he understood. His patients did not do as well as when sent to some similar place with better conditions. As to the matter of keeping tubercular patients congregated, the best results are not obtained, he thought. The method practiced throughout the country is productive of but little good. Sunshine will not help these unfortunates if they are congregated and allowed to discuss their condition.

Dr. GARCIA wished Dr. Solly would take up the question of the difference between the tuberculous patient going away, who leads an active life and he who leads a sedentary life. Those who can afford to go away often lead a too sedentary life. He had a patient who had typical incipient (verified by microscopical examination) tuberculosis who went away and came back much better. This man got a position as fireman on a mountain line where he had much active work. Dr. Garcia said that he had a tentative diagnosis made on himself in 1893, but after a long course of vigorous athletics all symptoms disappeared and he now believes these symptoms were merely delayed pneumonic results.

Dr. HILL said that he had been very pleased to hear Dr. Solly's views in reference to sending patients to a high altitude. He was afraid that he had been guilty of sending two patients to Colorado in the past year whose conditions had become so bad as to almost preclude the probability of improvement. Both of them had high temperatures in St. Louis and both of them went down rapidly in Colorado. The way the high altitude acted in these cases brought to mind the remark of Dr. Smith relative to the effect of high altitude upon a weakened heart. Both of these patients had swelling of the

feet. Dr. Hill believes it is unwise to send patients to a high altitude after the heart has been weakened by tubercular trouble. He had had a patient brought to him from a place higher than Colorado Springs a few years ago. She was a girl fifteen years of age who had heart trouble. She was swollen so that her features were almost unrecognizable. One pleural cavity was full of fluid and one partly full and she was gasping for breath. To day she feels perfectly well and is not conscious of the valvular lesion. He also wished that Dr. Solly would tell them something of his ideas regarding the rest treatment in consumption.

Dr. HINCHEY asked Dr. Solly if he entirely approved the plan of an absolute outdoor life for all classes of consumptives. He had been told by physicians about Denver that there are camps where the patients sleep out of doors in all weather, both men and women, robust and delicate patients. He thought this was going to extremes.

Dr. SHARPE said that he had seen some very interesting articles, at different times, by physicians in high altitudes on blood pressure, and the relative mortality of high altitude operations compared with those of the lowlands. Dr. Sharpe wished to know, if patients from an high altitude came to the lowlands needing surgical intervention, whether, in Dr. Solly's opinion, they required any modification of usual methods of preoperative preparation, and whether any special care should be instituted during the period of anesthesia. Are we justified in anticipating ordinary postoperative reaction?

Dr. SHATTINGER called attention to a fact not mentioned, that in high altitudes the atmosphere is generally charged very highly with positive electricity. Just what effect that would have it would be hard to say except that it would have a tonic influence, but that there is more behind it is shown by observations made recently in a German laboratory. They took sterile whey and passed an electric current through it. The portion of whey into which they dipped the anode, may be designated "positive" whey, the portion into which they dipped the cathode, "negative whey," and the portion between, neutral whey; the term "neutral" referring to the electrical condition and not the reaction. The "positive" whey gave an acid reaction, the "negative" an alkaline reaction, and the "neutral" a reaction leaning to either one or the other. If the two portions of the whey that have been changed chemically be exactly neutralized so that the three portions of the

they have exactly the same chemical reaction they had before, it is found that the "neutral" whey behaves toward bacteria just as sterile whey. The "negative" whey favors the development of bacteria, whereas the "positive" has a distinctly inhibitory effect, which lasts from twenty four to thirty-six hours. By means of the "ultra-apparatus," an instrument that is thought to indicate the molecular structure of bodies, a difference in the appearance of the three kinds of whey can be seen. This is interesting in connection with the study of electrical conditions in the mountains.

Dr. SOLLY, in closing, expressed his appreciation of the interest shown in the subject and only regretted that he would be unable to answer all the questions fully unless he stayed to breakfast.

Taking up first the matter of atmospheric electricity, but little is known about it although certain effects have been observed in certain people. The dry Chinook winds very frequently produce hemorrhage and nervous disturbances, particularly in women. The electrical disturbances are very strong and they do probably play an important part in nervous diseases. Persons who are inherently nervous, as women compared with men, are not so generally benefited, as the climate is too stimulating.

As to the effect of altitude on the heart in connection with tuberculosis, cases of mitral insufficiency usually do well, and if properly cared for compensation is soon established. Most cases of mitral stenosis and aortic valvular disease do badly. The heart in young persons or in any persons in the early stages of consumption is usually benefited, because the muscles of the heart are strengthened just as the muscles of the body. If they have a lung which is solid with tuberculous pneumonic processes and which, if it is removed, will probably be removed with cavity, dragging the heart out of place, they are not likely to do well. In advanced fibrosis they are not benefited as regard the heart, but in all these cases, of course, it is necessary to balance the good with the evil. The physician is apt to parcel diseases out as being of this organ or of that and they forget how dependent these organs are each upon the others. In tuberculosis one of the most important questions is, why did that person become tuberculous? It is often difficult to tell why, and it is the underlying cause that must be attacked.

It is rare that physicians examining cases of heart disease do not

examine the urine, not only the chemical test but as to the quantity. It is quite an important matter to know about that. It throws light upon your case. He had lately been investigating the indican in urine. It is not thought of much importance and it is not of importance as it indicates directly the condition of the intestinal tract. It represents the amount of absorption from the intestines through insufficient evacuations of the bowels. As a properly acting digestive process is one of the means of getting people well, this little point is of great importance.

As to the matter of when patients should go away from a climate, that going away which is, of course, only temporary, the patients only going away for a certain time. There are patients who never can go away, you can not risk them at all. That is illustrated in the climate of Arizona. Dr Solly has sent patients from Colorado to Arizona who would have died in Colorado and who have lived for years in Arizona, the heat and dryness being just what they needed. But there are a large number of cases that can go back to their own climate. The far most important point is, what they are going to do after they go back. If you are going to shut up a man in a store in Colorado he may live, but under the same conditions here or in Boston he will die. He will not have the fresh air, he will not have the exercise, he will not have the benefit of even those brief moments going to and from his house, and the pure night air that he will get in Colorado he can not get here. But if he can be placed under different conditions, if here he can get a position as street car conductor or can do the work of a farmer or a driver, he may live here though he would die in a store. Persons of means often do well in their own climate. A great many more can go back than we think, if they will live under hygienic conditions. Some of these patients are sleeping out of doors even in New York. As to whether this open air treatment is not carried too far, it is true that everybody can not stand it, but many more can stand it than we think. They do not get catarrh, for instance, if they live out of doors all the time. Those who are exposed day and night can stand it in a remarkable way. Patients will go through attacks of pneumonia lying out of doors and they beg to be allowed to remain outside. There is something about this that is not understood. The open air of the porch or outdoors is a very different thing from the air in a room with every window open.

As to the question of exercise or rest, a large body of men believe entirely in rest, another equally large believe entirely in exercise. One may say that when there is fever the patients should rest. How absolute the rest is depends upon the case. In going to a high altitude there is no question about the necessity for rest. Patients, as a rule, exercise too much at first and too little after they have been there for a while. If there is a great cavity the patients are often benefited by considerable slow exercise. Many cases put on the rest cure in Germany would have done better if they had gone out and exercised and coughed and expectorated, thus expanding the healthy lung. Exercise is necessary for the healthy portion of the lung, rest for the diseased portion. Those having an evening temperature should be quiet in the afternoon and exercise in the morning. Exercise should not be violent, constant or extreme. Patients often sustain serious injury from mountain climbing. They will go to Colorado Springs and carry their valise up the hill from the station to their lodgings, sometimes sustaining serious injury. They should not attempt the walk from the station and should see a physician as soon as possible. They are very apt to overdo in the first few hours. Dr. Solly urged his hearers to send their patients to some physician in whom they had confidence and have them see this physician as soon as possible after their arrival.

Taking up the subject of surgery at high altitudes, Dr. Solly said that he did not now do any surgery. He believed that Dr. Powers, of Denver, had investigated the matter. At first it was thought that surgical shock was more extreme at a high altitude but the fact was there was not sufficient care being taken in the operations. The patients did not have the attention they should have. It was a matter of keeping them warm. All of the important operations have been done in Colorado and where done by men of skill they are as successful as elsewhere. But there are patients, as very nervous women, who are better in a low altitude. As to recovery, the healing of the wound is remarkable. Dr. Solly had gone to Colorado from London, where he had done surgical work in the hospitals, and he was perfectly astonished at the rapid healing of wounds in Colorado. There is no doubt that in convalescence there is considerable advantage in being in high altitudes. It is the opinion of surgeons that in the case of those leaving a high altitude and going to a lower one, it is better for them to wait a week or two before submitting to an operation, so that they may get acclimated.

Replying to a question by Dr. Boisliniere, Dr. Solly said that extrapneumonic tubercular lesions do remarkably well in Colorado, but there are very few of them seen. What used to be called scrofulous joints are more apt to be benefited at the sea level, but there are now in use remedies that make them almost independent of climate. He urged his hearers to see to the matter of climatology in the schools and to do what they could to get accurate climatological data so that they would not be compelled to depend upon the statements of hotel keepers, adding that he had once seen himself quoted on the subject of the dryness of a place where the humidity was about 80.

*Meeting of June 16, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. A. T. CABOT, of Boston, read a paper (see page 217, this issue) entitled

When Shall we Operate in Prostatic Hypertrophy?

DISCUSSION.

Dr. FERGUSON, of Chicago, regretted that he had not had an opportunity to look over the data of some of his cases or to clothe his ideas in the language best suited to the importance of the occasion. He referred first to two indications for removal of the prostate gland, chronic inflammation and malignancy. In the first results are always good, in the latter they are always bad. In regard to chronic infection of the prostate gland, one case was referred to as an example. A physician, aged 29 years, had a streptococcic infection of the prostate gland. He went from Canada to England for treatment and then returned to Chicago. Upon examination he found no streptococci, but did find the colon bacillus. So painful was his trouble that he became a morphin fiend. He hesitated to remove the prostate in so young a man, thinking the inflammation would subside and that as the infection cleared away he would get better. The case finally came to operation, however, and since the removal of the prostate he has had no pain, uses no morphin, has no impotency and the frequent urination has subsided.

Another indication is hypertrophy of the prostate gland. First, in regard to the size of the prostate, simply because it is enlarged is

no indication for its removal. In the case of Senator Girard the prostate was about as large as a cricket ball. A physician passed a dirty catheter which infected him and from which he died. A recent case referred to the speaker was an acute infection of the prostate gland. So large it was that it obstructed the rectum by pressure and he was called upon to do a prostatotomy, as it was thought to contain a large abscess. He did not believe there was any pus there, so left it alone. The enlargement subsided and the patient is now quite comfortable. Such conditions, of course, are rare.

In illustration of the conditions that give rise to obstruction of the urinary flow, Dr. Ferguson presented plates from an old work by Maelise, who devoted his life to surgical anatomy, especially deformities of the prostate gland. The speaker thought that these plates would be of interest.

An uncommon condition is an overhanging portion of the prostatic tissue. Dr. Ferguson had had three such cases. In meeting with a case of obstruction to the urinary flow one of the first things to be considered is the age of the patient—whether it is a contraindication to operation or not. He had operated upon them at different ages, from the young man he had mentioned to a man aged 83 years. At one time he had had three cases over 80 years of age, and each made a good recovery. So the age is not a contraindication, other things being equal. The sexual function of the patient has to be taken into consideration. He has now under his care an attorney of 55 years of age, who has residual urine of from four to twelve ounces. The sexual function is unimpaired. It is a question whether it would be wise to remove his prostate until catheter life begins.

It is a matter of history that removal of stone from the bladder is sometimes followed by impotency. A friend of the speaker came near being sued for malpractice because the removal of a stone had thus impaired the patient. Had the prostate been removed at the same time with a similar sexual result he might have had some support in the profession. So the catheter, in Dr. Ferguson's opinion, has only a limited field of usefulness. The continuation of the catheter life, through months and years of suffering, can not be too heartily condemned. To take a patient who has no knowledge of medicine or asepsis and put a catheter in his hands is a mistake. The prostate ought to be treated at the proper time. Time is an element in the

treatment of the prostate in the saving of life. The condition of the bladder also should be taken into consideration. If the bladder is very much enlarged and atony has taken place, by removing the prostate and giving the bladder the proper drainage, it recovers the power of emptying itself without leaving any residual urine. If the bladder has been inflamed a long time and still the enlarged prostate is there what shall be done? Operate, of course. That thickened, inflamed bladder should be given a chance to empty itself. Shall the prostate be removed when there are found two or three or more diverticula; sometimes there are a great number of small diverticula, what shall be done then? The prostate should be removed by all means. It is known that these diverticula will contract once they have found their way outside the bladder muscles but the abdomen can be opened and these cut off with comparative impunity. The speaker mentioned one case in which the prostate was removed with the knowledge that there were two diverticula, one quite large. The patient is able to urinate properly and empties the bladder excepting what remains in those diverticula. Dr. Ferguson expects to open above the bladder and cut those off.

If there are stones loose in the bladder, and are quite loose and the surgeon can be very sure of it, it is better to remove them suprapubically and, that being done, the prostate can be removed afterward through the perineum. A reason for removing them suprapubically is that it gives an opportunity to get rid of infection. If they are encysted, treat the bladder as an abscess, drain the perineum without removing the prostate at the same sitting. The least amount of surgery with the maximum amount of good is as true of the bladder as of any other part of the body. The encysted stones can be removed after the patient has gotten over the infection.

In complications of the kidney, pyonephrosis, it is a question what shall be done? If pus is coming down into the bladder and the bladder is not properly drained on account of the enlarged prostatic, what shall be done? The part to attack first is one or both kidneys. The speaker recalled several cases in which even catheterization had brought on acute pyelonephritis that carried them off. His own experience with prostatic surgery had been limited, as he had had but 52 cases operated on by the perineal route and 24 suprapubically, Dr. Murphy had had 51, Ochsner well up to that number, Drs. Senn, Mc-

Arthur, Bevan, Steele and others have had many cases, so that they can count in Chicago alone some two or three hundred cases, with the mortality just as Dr. Cabot had stated. The wonder is that surgeons did not get onto it sooner. The first man to remove the entire prostate through the perineum was Dr. Goodfellow, of San Francisco, who reported 75 cases without a death. He uses simply a median incision, if he has not room he extends the incision. The edges of the wound will retract and give as good a view, and the parts fall together afterward better than in a transverse or any other incision. Dr. Ferguson, after using several incisions, now has returned to the median. The tractors and prostatic depressors are many, the principal thing is to put something inside the bladder. Dr. Pyle, of Toledo, Ohio, was the second to remove the entire prostate through the perineum. The great good that comes from the perineal operation is remarkable. Gross said, "no man yet has had the temerity to remove the prostate gland," and he added that he hoped no man would ever be so foolish as to try to do it; and this was only a few years ago. London surgeons removed the entire prostatic urethra with it and a number of men here have done the same thing. Extensive operations upon the prostate are now done successfully, whereas it was thought a few years ago that it could not be touched.

Dr. LEONARD FREEMAN, of Denver, said, that in discussing such a subject before a society of this kind one should be prepared, and he was not prepared, but there were a few things of which he would speak. A most important question, in those cases that need operation, is, what operation shall be performed? One class of writers say that the Bottini operation is the operation of choice, while another set of writers say that it should never be done, that it is not surgical, that one can not see what one is doing. There is a place for the Bottini operation, however, and a place for prostatectomy, and there is also a place for catheterization. Dr. Ferguson was right in saying that where it is contemplated putting a catheter into the hands of a man who will infect himself, the physician should hesitate. But there are cases where a man has used a catheter for years and is already infected; his kidneys may not be sound; his other organs may not be sound and his condition not good. Is it not sometimes better to let him go on? Dr. Freeman stated that he had done between twenty and thirty Bottini operations, and perhaps, fifteen prostatectomies and had had successes and failures in both. When he first began

to use the Bottini operation he attempted to use it in all sorts of cases, and had some unpleasant experiences in consequence. The Bottini should be used in those cases in which the disease is in its insipidity. The surgeon hesitates, when the prostate is small, to remove it because of the seriousness of the operation, because, also, of the difficulty with which a small prostate is sometimes enucleated. It is in these cases, where a man is beginning to use a catheter, that the Bottini gives the best results. It is of value in cases where the heart or kidneys are unsound. Again, there is a third class of patients where it may be useful, those who refuse to have the perineum opened, fearing an operation of that kind too much. There is a good chance for many of these men in the Bottini operation. But nevertheless in suitable cases a prostatectomy is the operation of choice. Surgeons are told that in prostates having one configuration they should do one operation and in a prostate with another configuration they should do a different operation. But a man can not always tell. Only a few days before, the speaker had thought he had every indication of a valvular third lobe and found that it was simply an enlargement of the lateral lobes. He had no doubt that by some men the cystoscope could be so handled that they could tell all about the configuration but most operators could not do this. It should be remembered that as soon as the cystoscope is inserted into the bladder many of the finer configurations are pushed aside and escape the observer.

During the past year Dr. Freeman operated upon four cases of cancer of the prostate in which the symptoms of cancer of the prostate seemed to fail. This makes him think, that perhaps, it is more common than is usually supposed. In one case he opened the perineum and found a small, hard, smooth prostate. There had been no bleeding. Nothing but the symptoms of obstruction. Prostatic cancers sometimes remain latent for long periods or else develop in cases of ordinary hypertrophy. Dr. Freeman had followed a case for two years as an ordinary prostatic hypertrophy and when he operated, though it had not developed any other symptoms, the prostate was cancerous.

Dr. JAMES BELL, of Montreal, Canada, had listened with great pleasure to Dr. Cabot's paper although his attitude was more conservative than Dr. Cabot's. It is sometimes difficult to decide what to do with these patients. In many cases the condition is such that it is clear what to do, but in the case of a man in good health who has some

residual urine, it is a question what to do. The history of results is not sufficiently clear to enable one to decide. It is certainly a great responsibility to advise a man in good health, say under 60 years of age, who has not begun to use a catheter, to undergo an operation. At one time a few years ago one would have thought from the reports of many of these prostatic operations that the questions was settled.

The complications referred to by Dr. Ferguson all have their indications for treatment, but the great question is, whether to resort to the habitual use of the catheter or not? When the profession is better educated as to asepsis, many patients will be able to use the catheter safely. As Dr. Freeman has said, many patients are already infected before consulting the surgeon, having used the catheter indiscriminately for a long time, and some of those get along fairly well. Whether these men should be advised to undergo an operation under such circumstances is questionable. They can be assured of much less danger in the operation at the present day, but patients are still obliged to use the catheter after the operation. The residual urine would disappear for a time, but later they would be obliged to use the catheter. For this reason Dr. Bell said he would like very much to know the remote history of these cases which have been operated upon, for he was in a most unsettled frame of mind. There was no question surgery where he felt less certain of the ground, that is, speaking of the cases in general. Of course, in many cases the indications are quite clear.

Dr. BRANSFORD LEWIS said an interchange of views on a great topic such as the one under discussion was desirable. He never heard a genitourinary surgeon talk on the subject without learning something. After the addresses of the evening he felt more hopeful about prostatic hypertrophy subject than ever, not because he believed any discovery had been made, but because study of the subject was going forward in a definite, searching, scientific way, rather than in an empirical manner. Each problem is being solved progressively. A few years ago, at a meeting of the Genitourinary Association at Atlantic City, Dr. Lewis had appealed to the profession not to go off on a tangent and say that any one operation was the one, and all others to be condemned. Since that time he had received dozens of letters from men in the profession saying that the position was well taken; that the profession should look at it more broadly and liberally. He believed in the views, as given by Dr. Freeman, of the advantage of the

several operations; and because the profession is beginning to look at it in that way he had hope for great results,

One of the problems mentioned was in reference to a choice of operations. One can not say, here is a man aged 60 years, he deserves such an operation, and here is a man aged 50 years, who deserves another operation. There must be taken into consideration the general condition of the patient, and, more important still, the shape and confirmation of prostatic outgrowth. The different forms of prostatic hypertrophy make indications for choice between operations. Dr. Lewis presented models in clay of actual specimens in his possession.

The condition of the hypertrophied prostate is a large determining factor, the age, another determining factor. Patients, aged 52 or 53 years, are sometimes considerably older in general debility than others aged 65 years. At one time he had under his care two men from Mississippi, one aged 56 and the other 73 years, and the man of 56 appeared 20 years older than his neighbor of 73 years.

As an illustration of the remark that hypertrophy of the prostate is not always an indication, Dr. Lewis presented a specimen of prostate which was removed through the perineum by another surgeon and the patient was not relieved a particle. After being operated upon he had to use a catheter. Dr. Lewis then attempted a Bottini operation which also did not give any relief. He then made a suprapubic incision into the bladder and removed the intravesical outgrowth and the man has been well and able to urinate for two years. A perineal prostatectomy had been done by a capable surgeon without any result. Another was that of an old patient who saw Dr. Lewis in December. Specific gravity of the urine was 1003. He had two big stones in the bladder, was debilitated to the last degree and anesthesia would have put him in his grave. Yet, he was suffering such tortures that something had to be done. If he had done the operation which is so generally applauded (perineal prostatectomy) Dr. Lewis believes he would have died. He made under local anesthesia, a supra pubic incision and removed the stones, looking after the urinary secretion. He then made a deep groove through the posterior prostatic bar, with the Freudenberg incisor, which has enabled the patient to pass the urine satisfactorily. This patient is now perfectly well, after having been apparently in an inextricable condition. He has another case that was entirely relieved by the Bottini operation. In other cases because of

the conditions present it was impossible to do a Bottini operation or do the perineal operation, so suprapubic incisions were made. The moral is to select the operation for the individual case.

In reference to the Bottini being applied only to cases in their incipiency, he did not know whether that was a point well taken or not. Since perfecting his examining cystoscope (retrograde view) he had been enabled to look backward into the bladder, presenting a new phase. Within the last three or four months he had had cases that puzzled him until this cystoscope cleared the matter up. A finger was placed in the rectum and no enlargement of the prostate could be felt, but when the cystoscope was put in there could be seen big knuckles of the prostate projecting into the bladder. Whether that could be called an incipient state or not he did not know. It was early, so far as general indications would go, but there was enough obstruction not to be removed by the Bottini. If one divides a knuckle of the prostate he gets two lobes instead of one and that does not relieve the passage any. As to the perfection of results, he could not tell. He has operated upon something like fifteen cases by the Bottini method and has done over twenty prostatectomies, and is so much gratified by the result that he is a thorough believer. He believes that greater danger comes from not operating and using the catheter than from operating, for the present methods of operating are attended with so small a degree of mortality, and followed by such a large degree of success.

Dr. JAMES E. MOORE, of Minneapolis, after having attended the meeting of the Surgical Association in the morning and walking through the Fair in the afternoon, had not thought of attending the meeting of the Society in the evening until he learned that Dr. Cabot would be the speaker. It was an agreeable surprise to find that the paper was read before a body of young medical men. They would find from what Dr. Cabot and the others had said that they had not solved this problem, and these young men expected to take it up, for the speaker doubted if it would be solved during the life of the older members of the profession. Those present were to be congratulated on hearing so conservative a paper. By the term conservative was not meant one who does nothing, but one who does the most good under given conditions. The question before them was, "What are you going to do for these old men?" and next, "How are you going to do it?" Personally, it was the speaker's belief that the catheter had killed more men

than it had ever cured. The prostatic's real danger begins when he is introduced to catheter life. He hoped to see the day when the surgeon could say to a man even at an early age: "We can relieve you safely and surely." Prostatectomy of some form will be the operation of the future. At the present time Dr. Moore rather prefers the perineal prostatectomy, although he admits he may change his opinion. He hoped he would die before he got too old to change his views. He had been very much pleased with the paper by Dr. Young, of Baltimore, and his hearers were recommended to watch Dr. Young's work. Dr. Young has operated fifty times with but two deaths. His operation is to remove enough of the prostate to restore the parts to their natural condition and at the same time restore the functions. It should be remembered that the prostate is a gland and important and what it does is not known. Prostatectomy now is usually followed by impotence and it can not be held out to men in early life without promising them something more than is possible now. Operations upon the prostate are not so easy as they have been pictured. Of course, it is as easy to pull out the prostate as to pull out a tooth, but to take it out without doing harm is what the surgeon tries to do and what the speaker hoped the young men present would learn to do.

Dr. HARRY MCC. JOHNSON said, in response to Dr. Cabot's inquiry as to Dr. Bryson's method of operating, that a description of it appeared in the *Annals of Surgery* over a year ago. Dr. Bryson had gone through the evolution Dr. Cabot had mentioned; first doing the suprapubic operation, then the Alexander operation, then he made a suprapubic incision down to the bladder for the purpose of shoving the prostate down for perineal enucleation. Later, he simply used the perineal route. He made a perineal urethrotomy, introduced the finger until it struck the obstruction, and then with some blunt instrument, made a hole in the prostatic capsule, introduced the finger and shelled out the prostate, of course, tearing the floor of the prostatic urethra. He had operated on more than a hundred cases, many by this method, and in not a single case was there a puncture of the rectum. That complication did not seem to arise, but if it did, it could be dealt with by making the two incisions, separating the rectum as in the Young operation and proceeding as Dr. Cabot had in his case. This operation appealed to the speaker as the ideal perineal operation, better than pushing the rectum back. There is not so large a hole, the prostate is readily removed and the patient makes a more speedy recovery.

We do a dangerous thing when we put a catheter into a prostatic's hands. It is practically impossible for him to maintain an aseptic bladder, and thus we have a septic condition added to what is often an already inefficient kidney.

We should rather take into consideration, when we are deciding the expediency of operation, the general condition of the patient. A prostatectomy on a man otherwise healthy is not a dangerous operation, but it becomes so the more the patient's condition is deteriorated through the agency of these two factors—sepsis or uremia. Indeed, it is sepsis, or uremia, or both, which finally terminate the patient's life. So that it seems that the ideal time to operate is whenever it becomes necessary to put a catheter into the patient's hands, and before he reaches that condition in which sepsis and uremia play such an important rôle.

Dr. HENRY JACOBSON, referring to the cases in which the Bottini instrument is used, the essayist stating the surgeon has to work in the dark, said that objection was overcome by a dial attachment to the cystoscope and to the Bottini instrument; I have one with my instruments which I showed to the Society two years ago. So we now see where the channel is forming, and the objection that one is working in the dark will not hold good. He added that he preferred prostatectomy in the majority of cases, but thought that the kind of obstruction and health of patient must govern the choice of the method to be used.

Dr. R. E. KANE thanked Dr. Cabot for the tribute he had paid Dr. Bryson. Dr. Johnson had very well covered Dr. Bryson's operation. As to Dr. Cabot's impression that an instrument had been used by Dr. Bryson, Dr. Kane stated that Dr. Bryson depended entirely upon his finger and in a few instances where he had to do with fatty subjects he made a prevesicular incision. Referring to the case of Dr. Ferguson in which the diverticulum was large enough to introduce two fingers, a similar case was operated upon by Dr. Bryson. The prostate was removed with some brief benefit, but at the end of about two months the patient got worse than he was in the first place and a year later it was necessary to do a suprapubic operation. The diverticulum was very nearly as large as the bladder proper. Relative to the putting of a dirty catheter into the hands of dirty people, Dr. Bryson used to tell a story of a man who had gone to his office for examination. Dr. Bryson was preparing to catheterize the patient who inter-

rupted the proceedings, pulled a dirty catheter out of his pocket, spat upon his hands and introduced the catheter and drew off the clearest urine the doctor had ever seen drawn from a prostatic.

Dr. CABOT, in closing, said that he thought the removal of the prostate for chronic inflammation an excellent operation. It seemed the only logical way of treating the old intractable prostatics. He said Dr. Ferguson had spoken on a subject a little aside from the discussion, but one of great importance, viz., the treatment of stone behind an enlarged prostate. Dr. Ferguson thought it should be removed suprapubically. Dr. Cabot said that he had removed stones in cases of 125 prostatic patients by crushing and pumping them out with 5 deaths. As the suprapubic operation has a much higher mortality than this, it is plainly better in those patients where it is wise to get rid of the stone first to select the crushing operation rather than the suprapubic.

The essayist said that Goodfellow is reported to have had but two deaths, but he understood that at least one other patient was admitted to have died from some other cause than the operation within a short time thereafter. Of Dr. Young's cases, one died of pulmonary embolism and another of asthenia. They certainly did not die of the operation, *per se*, but in charging up the mortality of these procedures, which are employed in the effort to save life, it seems plain that if this effort fails, the case must be counted against the operation selected.

In a case of death from pulmonary embolism, or of a death from asthenia, after a perineal prostatectomy, we must doubt whether a Bottini done under cocain anesthesia would not have pulled these patients through.

A plain statement of the facts enables each observer to interpret the statistics according to his best judgment.

In his operations he had found cancer of the prostate to be more common than was generally supposed.

Smallpox and Pregnancy.

E. Lefèvre (*Theses de Paris*). The prognosis of smallpox is greatly aggravated by an existent pregnancy. As to the child, premature labor frequently takes place especially if the pregnancy be near full term. Vaccination of the mother does not always render the fetus immune. After birth, the child can at once be vaccinated without any danger. Some slight disturbance in nursing may be expected during the time of incubation and after eruption of pustules.

BIOGRAPHICAL SKETCHES.

DR. LOUIS CHARLES BOISLINIERE.

Dr. Louis Charles Boisliniere, the well known educator and physician, contributed largely to the medical literature of his time and is especially known as the author of a very valuable work, entitled "A Treatise Upon Obstetric Accidents, Emergencies and Operations." His birthplace was Guadeloupe, one of the French possessions of the West Indies, where he was born, September 2, 1816. He received his education in France and took the literary degree from the University of France. He studied law at the University and practiced his profession for some time. In an extended trip through South America he succeeded in confirming some of the observations of Von Humboldt.

In 1842, he moved to New Orleans but remained there only a short time. On his removal to Kentucky he took up the study of medicine at the University of Louisville, but completed his medical education at the St. Louis Medical College. He at once began the practice of medicine in St. Louis and soon rose to great eminence, his services being especially distinguished during the cholera epidemic of 1849. He was the first physician who held the position of Coroner of St. Louis County. His standing in the local and national medical societies gave proof of his great learning and remarkable abilities.

In 1878, he was President of the St. Louis Medical Society, and for several terms he held the position of President of the St. Louis Obstetrical and Gynecological Society; he was an honorary member of the Anthropological Society of Paris, and the American Association of Obstetricians and Gynecologists.

His special interest in obstetrics and gynecology won him a large consulting practice in this branch of medicine, and in 1870 he was elected professor of obstetrics, gynecology and diseases of children in the St. Louis Medical College.

He married Miss Mary Hite, of Louisville, Ky.

His death occurred in St. Louis, January 13, 1896, and the whole medical profession felt a great loss, for his kindly manner endeared him to all.



DR. L. Ch. BOISLINIERE.

*Born in Guadeloupe, W. I., Sep. 2, 1816; Died in St. Louis, Jan. 13, 1896.
(See Biographical Sketch).*



DR. JOHN T. HODGEN.

Born in Hodgenville, Ky., Jan., 19, 1826; Died in St. Louis, April 28, 1882.

(See Biographical Sketch).

DR. JOHN THOMAS HODGEN.

Dr. Hodgen has been correctly called one of the greatest Western physicians and surgeons. He was born in Hodgenville, Ky., January 19, 1826. His early school days were spent in the common schools of Pittsfield, Ill. and at Bethany College, Virginia. His degree of medicine was obtained from the University of Missouri in 1848. The following year he was resident physician in the St. Louis City Hospital, following which service he began the practice of medicine. His abilities were soon recognized, and he held at first the position of demonstrator of anatomy, and later was professor of anatomy in the Missouri Medical College. During the Civil War this College was disorganized and he accepted the chair of physiology and anatomy in the St. Louis Medical College. In 1875, he was made professor of surgical anatomy and soon afterward became dean of the college, which position he held until his death.

During the Civil War he was surgeon-general of the Western Sanitary Commission and his great surgical skill received wide recognition. He was a perfect genius in his inventive skill and modern surgery owes him very much.

The following are a few of his inventions, which have become known all over the world: The wire splint for fracture of the thigh; suspension cord and pulleys and cradle splint for fracture of the thigh; forceps dilator for removing foreign bodies from the air passages; wire suspension splint for fracture of the arm; stomach pump; hair-pin dilator in tracheotomy, etc.

He contributed largely to medical literature and took a great interest in medical societies. He was president of the St. Louis Medical Society in 1872, president of the State Medical Association in 1876; and president of the American Medical Association in 1880.

His broad and liberal ideas, his freedom from professional jealousy, his encouragement to the younger members of the profession, his great medical learning, his clearness in thought, his keen sympathy to the sick, his energy and boldness in all undertakings, and his remarkable mechanical skill—place him as one of the leaders of the world in the field of medicine; one to who we can all look back with pride.

Dr. Hodgen died in St. Louis, April 28, 1882, and was survived by his son, Dr. Harry Hodgen, the latter dying in 1896.

BOOK REVIEWS.

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ORIGINAL CONTRIBUTIONS.

**Excision of the Knee-Joint, With Report
of Case.**

By A. J. STEELE, M.D.,

ST. LOUIS, MO.

WHEN I commenced the study of orthopedics, the operations of excision and resection of the knee-joint were frequently performed. These operations, were then popular because they replaced amputation, which previously had been the resort of surgeons in order to save the life of the patient. Tumor albus was a deforming disease, so far as the joint was concerned, and not unfrequently cost the patient his life. So surgeons reasoned—better sacrifice the limb and trust to a cork leg than to entail a useless appendage on the patient, on the one hand, or endanger his life on the other.

Twenty years ago I was struck with the numerous specimens of diseased knee-joints found in the pathological museums of London. The popularity of amputation had enriched these collections.

Later, and in the course of time, it was suggested that as tumor albus was a local disease, or at least a local manifestation of a constitutional trouble, the joint and its diseased structures might be removed entire, cut out, and the contigu-

ous bones approximated and so held in straight position until firmly ossified, resulting in a shortened limb with a stiff knee, but even so, far preferable to the best of artificial limbs. This was a great advance over amputation as a surgical procedure in the therapeutics of tumor albus. But the world moves. So in this instance it was still further suggested: Why remove more than the tissue actually affected? May not this often be done and the integrity of the joint saved? The verdict of modern surgery is in the affirmative; and thus the operations of erosion, arthrotomy and arthrectomy are the established methods of to-day for the treatment of advanced tumor albus.



FIG. I.

Knee Anchylosis at Right Angle.

But the case is altogether different where the disease has spent itself, and there remains, as a result of the tuberculous pyogenic inflammatory process, permanent deformity,—most likely, flexion. If true ankylosis is present, then as a surgical method either osteoclasis or osteotomy is demanded. The former is rarely applicable in bony ankylosis of the knee because of the marked and peculiar deformity, because of the danger of lighting up the original disease, if tubercular, and

because of the uncertainty of good union. The latter operation—namely, cuneiform osteotomy—is, as a rule, demanded. This was practiced with happy results in a case recently coming under my care :

A boy, aged 14 years, came under my notice ten months ago, healthy in every particular except that his right knee was permanently flexed to an angle of 90° . Seven years previously he had run a needle into the joint, which had lighted up a synovitis. It seemed that the attending physician had occasion,



FIG. 2.

Skiagraph of Anchylosed Joint.

on account of the swelling, to cut into the joint. Whether the articulation became septic from the needle or from the surgical instrument we do not know ; but abscesses formed in and about the joint, and continued to discharge for more than a year. Through negligence the joint was allowed to flex to 90° and so continued for years, deforming and rendering useless the limb. I decided that the ankylosis was "true," which opinion was confirmed by the x-ray.

Excision was plainly demanded, the only question being, whether if done at once might it not interfere with the epiphyseal cartilage and thus the growth of the limb at that point be arrested, and so would it not be better to wait until the lad had his growth? But we decided to operate at once; for first, the sooner the limb was made useful the better, as he was a poor boy and must work for a living; second, care might be taken to avoid one or other of the epiphyses and thus the resulting shortening be not great; third, he might fall into the



FIG. 3.

Cuneiform Bone Removed. Patella at Upper Part.

hands of an amputator, as had already been suggested to him, and thus the whole limb be lost. In my opinion an artificial limb is a poor substitute for the natural one even though it should be imperfect in some particulars.

The operation was a simple one: A tourniquet was applied to the femoral artery, the tendo Achillis and the hamstrings were tenotomized, a U-shaped flap was turned up exposing the knee-joint, the patella—united to the femur, was torn from its adhesions by chiselling underneath, a thin metal instrument was passed behind the bone but in front of, protecting the popliteal vessels, and a cuneiform piece was sawed out. So large a wedge had to be removed that the femoral epiphysis was sacrificed but the tibial epiphyseal junction was saved.

On bringing the leg down it was found necessary to remove an additional slice, one-quarter of inch thick, from the femur. This permitted good lining up. Two steel nails, three inches long, were driven upward and backward through the head of the tibia into the femur, in holes previously made with a drill. These nails held the bones firmly in line. The flap was stitched down, antiseptic dressings applied, and an iron rod splint, arched around the knee, with a wooden foot-piece, was



FIG. 4.

Skigraph of Straightened Knee.

incorporated in the plaster-of-Paris dressing—the tourniquet having been previously removed. The limb was kept perpendicularly elevated for thirty-six hours as a little oozing showed itself. A re-dressing was made on the third day. On the eleventh day the nails were removed and the iron rod splint substituted by a simple gypsum dressing, fortified, as is my custom, with strips of galvanized wire gauze. In the fifth week he was allowed to be up on crutches. In the eighth week a leather splint, shaped over a cast of the limb, was

laced on, which he wore for several months. A high sole of one and one-half inches allowed him to walk with but little halt.

It is interesting to note that at no time were there unfavorable symptoms—no pain, no temperature, no pus. Both the soft and hard parts readily united.



FIG. 5.

Laced Leather Splint, Previously Fashioned Over a Cast of the Limb.

The cuneiform specimen removed shows ossific union of the three bones making up the knee-joint. While the femoral epiphyseal junction was included in the removed part yet the tibial epiphysis was barely touched, so that while there will be no more growth at the former point, it will continue at the latter.

In regard to the employment of pins in this operation, I have used both bone and ivory, but they eroded and in one case broke and separated, leaving a piece behind which was attended with suppuration. Steel nails are preferable; they hold the bones in line while the dressings are being applied, and steady them until sufficient callus has been thrown out to

immobilize the parts. It may also be believed they stimulate the formation of callus.

For the after-immobilization of the bones what can possibly be better than an accurately fitting laced leather brace, fashioned over a plaster-of-Paris cast of the limb? I do believe that the deforming results following excision of the knee, formally experienced by myself and others, were largely due



FIG. 6.

Knee Straight and Firm.

to the want of efficient and persistent support. Still, I do not forget that a marked difference may exist as regards rapid and strong union after knee excision between cases of tuberculous knees and cases like the one here related where no general constitutional affection existed.

At last accounts our patient has thrown aside his brace and was doing a man's work on a farm, the limb in good line, and without return of flexion.

The Surgery of Typhoid Fever.

By W. W. KEEN, M D.,

PHILADELPHIA, PA.

MR. PRESIDENT AND GENTLEMEN:—When you kindly invited me to address you I was obliged to excuse myself on account of numerous other existing engagements, and when you still pressed the request I accepted with the statement that it would be impossible for me to take time to prepare a carefully written paper, but if you thought a few *ex tempore* remarks upon the Surgery of Typhoid Fever, would be useful, I would gladly meet your wishes. I must ask, therefore, for your indulgence if both in matter and manner I fall far short of what I would wish. I have not had time to tabulate the many cases reported since my book on "The Surgical Complications and Sequels of Typhoid Fever" was published early in 1898, and, therefore, have had to quote statistics of that date except in a few cases. Saving, however, in typhoid perforation, I suspect that while numbers might vary, the percentages would be much the same.

My attention was called to this subject as early as 1874 by some cases I had had. In my Toner Lecture, in 1876, I gave a brief résumé of our then existing knowledge on the subject. Afterward, in 1898, as already stated, I published a little monograph on the Surgery of Typhoid, covering the ground more completely. It is a striking fact that in the years that have elapsed since 1897 there should have been so many cases reported compared with the number previously reported. My book published in 1898 covers practically the records of typhoid surgery for about fifty years. The number of cases in that period was 1700. I think since 1898 I have notes of perhaps 1000 additional cases.

One must remember that there are many more deaths from the complications of typhoid than from the fever itself. Hölscher, in a study of 2000 fatal cases, found that 24 per cent died of the fever and 76 per cent of the complications and sequels.

*An Address
Delivered before the Medical Society of City Hospital Alumni,
June 30, 1904.*

In 1876 when my Toner Lecture was delivered, the bacillus was not known. Moreover, even in 1898 the pyogenic faculty of the typhoid bacillus was still in doubt, though now it is a well-recognized fact. The viability of the bacillus in the body is something extraordinary, especially in the bone marrow, the spleen and the bile. Thus, Sultan found the typhoid bacillus in an open sinus from the clavicle after six years; Buschke, in the rib, after seven years; von Dungern, in the bile, after fourteen and a half years; Droba, in the bile, after seventeen years, and Hunner, in the bile, eighteen years after the attack of typhoid, all in pure culture.

Not seldom the bacilli are found in many organs in the same patient, showing their very wide distribution. Thus, in one of his patients, Flexner found them in the mesenteric glands, the spleen, the liver, the bile, the kidneys, the lungs, the bone marrow and the blood of the heart. As a matter of fact, I advocated in 1898 the view that these wide-spread infections indicated unerringly the diffusion through the blood, although I could show then but few cases in which the bacilli had been cultivated from the blood. In the past few years the bacilli have been found in many cases, in the blood in 80 per cent of the cases examined, especially in the early stages. This, therefore, may prove to be one of the very earliest means of diagnosing typhoid fever as well as of explaining its multiple invasions. Moreover, as in cases of abortion, the typhoid bacillus has been found in the placenta and the fetus,—no other means of such infection could be imagined than by the blood.

One of the most important complications to be considered is *gangrene*, the result of thrombosis. It is generally a late complication or early sequel, arising usually from the second week to the seventh, chiefly in the second and third weeks. The cause of the thrombosis is not only the weakened heart and the weakened and sluggish circulation, but the bacilli themselves existing in the blood, the heart and the walls of the arteries and veins. If a thrombus forms in an artery it causes a dry gangrene through cutting off of the blood supply; if in a vein moist gangrene through damming up the blood supply.

Occasionally the gangrene is bilateral. It is far more frequent in the lower parts of the body than in the upper, *i.e.*, where the force of the circulation is the least. Out of 214

cases it appeared 146 times in the genitals and the legs. The same preponderance is seen in the joints in the proportion of 70 to 17, and in the bones 112 cases in the lower extremities to 41 in the upper.

Curiously enough Ricketts has shown in his recent paper that it is much more common in men (100 cases) than in women (34 cases).

The most remarkable case of gangrene I ever saw I will describe briefly, because it is of more than usual interest, inasmuch as it shows the possibility of using the rectum for many years as a common cloaca. A woman, aged 34 years, in March, 1872, was ill of typhoid following prolonged nursing of her husband who died of typhoid. Gangrene of the vagina caused both rectovaginal and vesicovaginal fistulæ, which a colleague had not been able to close. I, in turn, was equally unsuccessful in my efforts to close them. After thirteen operations by him and myself, covering about two years, the woman was cured in this way: After the operation and consequences had been fully explained to her and her ready assent given, the urethra was excised and the vulva entirely closed. All the urine, all the menstrual discharge—which continued for a few years after the thirteenth operation (a lucky number for her), and also all the feces, were passed per rectum. In December, 1888, twelve years after the operation, she came to me for the first time, complaining of difficulty in urination. I found that a little round calculus had formed in the vagina and was acting as a ball-valve and causing retention of the urine. On crushing and removing this through the rectovaginal opening she was entirely relieved. I saw her last in November, 1898. For twenty-two years the rectum had served as a common cloaca without irritation of the rectum or infection of the kidneys. She told me that she rose only once or twice during the night to urinate and that she had been perfectly clean and comfortable all these years.

As to the prevention of typhoid gangrene, it is practically impossible either to foresee or to forestall it. When it occurs all we can do is to keep the parts as clean as possible and, finally, after the line of demarcation has formed, to amputate the extremity or excise the slough. Here I would suggest neural infiltration in preference to general anesthesia, especially if the operation has to be done during the course of the fever. Ricketts' statistics seem to show that operation is im-

perative, for in 87 cases operated upon there were 22 deaths, a mortality of 25 per cent, while in 35 cases not operated upon there were 34 deaths, a mortality of 97 per cent—a most startling contrast. But I suspect it is somewhat misleading in one respect. In many of the cases not operated upon the gangrene was doubtless so extensive and the patient's condition so grave as to forbid any operation whatever. In the remaining suitable cases the results are so encouraging that in doubtful cases we should give the patient the benefit of the doubt.

In every case of typhoid infection of the *joints*, let me urge especially that you take the opportunity to examine the fluid bacteriologically. With modern methods I hope we shall be able to detect the typhoid bacillus in pure culture; but there has been no case up to the present time, so far as I remember, in which the typhoid bacillus has been proved to exist in the joints, though unquestionably the post-typhoidal joint infection must be the result of the bacillus.

The most unexpected result of the joint affections of typhoid is dislocation of the hip, due to distention of the capsule with fluid. I have seen personally three cases of this lesion but unfortunately long after the fever, when it was too late to do anything. It is distinctly a complication of childhood and early youth. Of 38 cases 35 were under the age of 20 years. Most of these cases have only been discovered by the doctor after they have occurred, since, as a rule, no premonitory symptoms have been observed. The child has typhoid and is lifted by the doctor or the nurse from the bed when suddenly one of the hips is dislocated; or the child may complain of pain, and upon examination the hip is found already dislocated—no one knows when or how.

The lesson is clear. Examine the hips in young patients with care, especially if there is the least complaint of pain. I say the *least* complaint of pain, because in most of these typhoid patients their apathy and indifference to any except considerable pain may very possibly make the physician disregard slight complaints, only to find later the grave error into which he has fallen by want of attention to such slight complaints. If a dislocation occurs, immediately replace it and guard against its recurrence.

Affections of the *bones* are, as a rule, a late sequel rather than a complication; they are relatively frequent. I found on

record up to 1898, 237 cases. The bacillus of typhoid has been found in pure culture many times, not only in the long bones but in the diffused marrow of the spongy bones, because in the bone marrow the infection is the most frequent and lasts the longest after the fever has passed. In fact, it is probable that the marrow of most of the bones, including even the vertebræ, is infected at one time or another during most cases of typhoid.

There is a marked difference between a typhoid infection and an ordinary pyogenic infection of the bones. When there is a pyogenic infection the patient is distinctly sick, often, indeed, *very ill*. He has high fever and complains of severe pain. These symptoms are absent or slight, as a rule, in typhoid infection. In many cases there is little or no fever, and only at the point of infection may there be tenderness. Another thing which sharply differentiates typhoid bone disease from similar pyogenic diseases is the fluctuations in the local manifestations. A lump will appear, be a little red and tender and then will subside, only to reappear at a later period. I have known such a rise and subsidence to occur five or six times in the same case.¹ Moreover, typhoid infections of the bones are apt to continue for years and to attack successively different bones. In one case I had under my care the attacks covered a period of eight years, and may have continued much longer for I then lost sight of him. In this patient's case his occupation required hammering with a large sledge hammer, and in consequence he had multiple attacks in the arm, forearm, leg and thigh, especially on the right side, on which came the strain of his occupation. The most frequent results of such an affection are a periostitis or an osteomyelitis, the latter being on the whole, I think, the most frequent.

The osseous lesions of typhoid as we would naturally expect are very widely distributed but preponderate in the lower extremities. In the head there were 14 cases, in the trunk 49, in the upper extremities 41, in all 104; whereas, in the lower extremities, there were 112 cases, more than in all the other parts of the body combined. Sir James Paget long ago called attention to typhoid periostitis (osteomyelitis, I believe, almost invariably) of the ribs and sternum. The date at which the infection occurred will show you that it is a late sequel. The disease arose in 16 cases in the first two weeks, from three to five weeks in 66 cases, from months to years after the fever in 104 cases.

The treatment is very clear and simple, namely, removal of all the diseased tissue. You will find in a great number of cases, especially in your earlier cases, before you are taught by disagreeable experience, that you will fail to cure your patients by the first operation because you do not go wide enough. If the infection is in a rib, for instance, we must take out the entire thickness of the rib and go far from the disease forward and backward. I have had to do two, three or four operations in some of my early cases because I did not remove enough. Considering the origin and extent of the operation it is not a very dangerous one—only 11 out of 168 cases proved fatal.

When the infection invades the *larynx* it is most frequently during convalescence, usually from the fourth to the eighth week (83 out of 143 cases). I found 221 cases up to 1898. I well remember during the Civil War two cases of typhoid in which within forty-eight hours of each other I had to do instantaneous tracheotomy, but unfortunately without saving the life of either patient. The age is important, the patients are chiefly from 15 to 25 years of age (109 to 56 for all other age). After the age of 25 years, laryngeal complications are rare; before the age of 15 years, they are *very* rare. Very frequently the laryngeal symptoms will be slight, but if you find in any typhoid patient that there is even a slight hoarseness or dyspnea, instant and close attention should be given to the case, for there may be a sudden change for the worse, a livid face, bloody expectoration and almost instantaneous suffocation. Of 98 cases not operated upon, 77 died and only 21 recovered, a mortality of 78.6 per cent, while of 99 cases operated upon, 55 died and 44 recovered, a mortality of only 55.5 per cent. The most dangerous of all forms of laryngeal typhoid disease is necrosis of the laryngeal cartilages. In these cases death followed in 95 per cent of all the cases.

The only treatment is early tracheotomy, and in many cases an instantaneous one. Tracheotomy is the operation not only of choice but of necessity. Intubation is not to be considered.

I now come to a complication of the greatest interest both medically and surgically, which will appeal to all of you, namely, *intestinal perforation*. Operation in these cases was first advocated by Dr. James C. Wilson. I remember the first case he had in which, though we did not operate, we were

ready to do so. He asked me late in the afternoon to go and see a patient with him. This was in 1886, two years after Mikulicz's first, and up to that time, the only operation, which, however, had not then been published. We could not quite make up our minds that there was a perforation, and so finally decided to wait until the next day. She was then a little better, and each following day there was some improvement until she finally recovered without operation. But this case soon led to the first published plea by Prof. Wilson for operation in case of perforation.

Perforation bears no relation to the severity of the fever, and, in fact, it is not uncommon in the ambulant type of the disease. Taylor states, that based upon the Census and the Marine Hospital Reports on the frequency of typhoid in the United States, we have about 500,000 cases a year with a mortality of about 50,000. Osler attributes about 30 per cent of the mortality to perforation. If this is so, there are annually about 15,000 deaths in this country due to perforation. On an average we can now save 30 per cent of these cases of perforation, which would mean 4,500 lives saved annually. In their recent paper, Harte and Ashhurst collected from January, 1898, to December 31, 1903 (the six years following my monograph), only 201 cases operated upon the world over. Yet, it would seem that in these six years in the United States alone 90,000 patients died from typhoid perforation, nearly all of whom should have been operated upon and about 27,000 lives saved. Have I not reason then to select the topic of the evening when it is so evident—so painfully evident, that the profession at large have not even begun to appreciate the need for operation in typhoid perforation? It is especially the family physician, the one who attends typhoid fever, rather than the surgeon, who needs to be taught that perforation means operation, as a rule, just as he has painfully learned that, as a rule, appendicitis means operation. Iteration and reiteration are needful, here a little and there a great deal, and in time the profession will be convinced, but only, I fear, after the loss of many valuable lives.

The site of perforation is most commonly in the ileum, though it appears also in the appendix and cecum, and in the opposite iliac fossa, in the sigmoid. Moreover, there are sometimes two, three or even four perforations or impending perforations which later may go on successively to complete per-

foration. Hence the need in every case in which operation is done is to examine several feet of the intestine for other impending perforations to see that they are closed and sealed up in advance of perforation. There are on record a number of cases in which the patients have been operated upon for perforation and in full tide of recovery who have died of a later perforation. Most of these could have been prevented had the impending perforation been sealed by a few sutures.

As to diagnosis, the symptoms are sometimes sudden and severe. There may be marked shock and pain. On the other hand, there is slight or no shock in most cases. There is almost always pain, but often not so severe as to produce any shock. There will sometimes be nausea and vomiting. Rigidity of the abdominal wall is sometime present but not always. There is sometimes a slight fall in temperature. Hepatic dullness rarely disappears. The perforations are not usually so large as to allow of the escape of gas in large quantities into the peritoneal cavity. Leukocytosis I believe to be of great value. During the fever itself there is, as a rule, no leukocytosis, sometimes even in perforation there is none. But if there is pain, a fall in temperature, a rise in leukocytes to 15,000, 20,000 and sometimes even 50,000, then you ought to conclude that there is perforation and that operation should be undertaken as quickly as possible. When perforation has gone on long enough to give rise to peritonitis, then you will have also a rise in the blood pressure and there will be a hard, quick pulse.

When I wrote my monograph in 1897, I took a much less hopeful view of operation in these cases than I do now. Up to that time I could collect only 83 cases, with a mortality of 80.7 per cent. In view of the disease, itself a most serious and dangerous malady, and of the high mortality, I was of the opinion that the outlook was rather gloomy. But cases since reported by Finney, Cushing and others have shown that such patients bear operation unexpectedly well.

In 1898 and 1899 I collected 73 additional cases of operation and the mortality had fallen from nearly 81 to 72 per cent. Harte and Ashhurst have recently collected 362 cases to the end of 1903. Arranged by periods of five years there were:

From 1884 to 1888, 10 cases, with a mortality of 90 %.

From 1889 to 1893, 16 cases, with a mortality of 87.5 %.

From 1894 to 1898, 100 cases, with a mortality of 72 %.

From 1899 to 1903, 106 cases, with a mortality of 69.2 %.

This progressive fall in the mortality from 90 per cent to 69.2 per cent is most encouraging. Instead of 30.8 per cent of recoveries which is the average result for all surgeons, individual operators, under exceptional hospital advantages, have had a much higher rate of recovery. But surgeons, as a rule, should anticipate for the future recovery in at least one case out of three, and I believe it will gradually rise to 40 or 45 and possibly to 50 per cent, though from saving one in three to saving one in two is a long step. Undoubtly, also, the *published* cases do not fairly represent the *actual* cases, for many unfavorable cases slumber—and very possibly always will slumber, in sealed case-books or unpublished memories.

The time at which operation is done after perforation is of great importance. In the first twelve hours, according to Harte and Ashhurst's recorded cases, the mortality is 73 per cent, during the second twelve hours it is 73.8 per cent, while in the third twelve hours it rises to 93.5 per cent. The fact that after this time there is a fall in the mortality to 67.2 per cent is no argument for postponing the operation, because most of the patients would be dead before you could operate on them. These later statistics confirm those published in my book. My position in that publication has been misunderstood. It has even been said that I *preferred* to wait until the second twelve hours, an utterly untenable position in the face of a spreading infection. What I stated was that so far as we could judge by the statistics then available (1897), the second twelve hours showed a less mortality than the first twelve hours. The later and fuller statistics of Harte and Ashhurst show that the mortality of the first and that of the second twelve hours are now practically the same. Moreover, in my book I *urged* as prompt operation as possible with two provisos: First, as advised by Abbe, that we should not so hasten operation as to be handicapped by want of suitable provision for light, means of flushing and sufficient assistants; and secondly, that if profound shock were present we should wait a reasonable time to see whether it would pass off.

Of course, I refer here only to any primary shock that may immediately follow the perforation and, therefore, be due very largely to severe pain and not to the later-delayed shock which may arise from absorption and infection. The latter form of shock could not occur immediately after operation,

and therefore could not be taken into consideration when deciding whether operation should be done immediately.

Happily the spread of modern hospitals even in small towns provides for the first condition in a large number of cases. As to the second, I must still adhere to the view which is the admitted rule of practice in other surgical cases. When a limb is smashed in a railway accident, if there be little or no shock, immediate operation is proper. But if there be profound shock, a cold, clammy skin, a hardly-perceptible pulse, a sighing respiration, where is the wise, sensible surgeon who would not delay operation for a reasonable time in spite of the danger, here also, of an hourly increasing infection? If after a while it is evident that the patient's condition is not improving, then in spite of the shock he must operate. So in typhoid perforation, if there is little or no shock—as is the rule in the majority of cases, then the earlier the operation can be done the better, as I said in 1898. But if there be profound shock, I still believe that a judicious surgeon will wait but only for a reasonable time. The increasing infection in this short space of time will be more than counterbalanced, in my opinion, in the majority of cases by the decreasing danger from operating during severe shock, if it exists. Were this not so, the second twelve hours, as we may conclude now from 362 cases, should show a *large* increase in its mortality instead of an increase of only 8/10 of 1 per cent over the first twelve hour period.

As to the technic of the operation my judgment is that in most cases a general anesthetic will be required. Patients frequently complain severely of pain upon opening the abdomen under a local anesthetic. The incision should be long enough not to embarrass the surgeon, yet so short that he can close it quickly and leave no chance of hernia.

If the perforation is a small one it should be closed, without trimming the edges, with Lembert sutures. If it is very large your choice must lie between a resection with an end-to-end anastomosis, and an artificial anus. The artificial anus is so much more safely and quickly made that this should be the operation of choice in most cases. This will of itself diminish largely the future mortality rate. When the patient recovers a secondary operation to re-establish the continuity of the intestine may be performed. In all such cases a search should be made to discover impending perforations and to prevent them by Lembert sutures.

Perforation of the *gall-bladder* is not a frequent complication. Up to 1898 there had been reported only four perforations of the gall-bladder treated by abdominal section resulting in the cure of three of the cases—a recovery rate of 75 per cent.

I have not time to consider the other complications of typhoid, but can only mention the brain, eye, ear, thyroid, gland and a few cases of stricture of the esophagus. Pleurisy and empyema are not at all uncommon. Perforation of the stomach occasionally takes place. There is occasionally inflammation of the spleen, softening of the mesenteric glands, which may resemble perforation. Suppuration of an existing ovarian dermoid is infrequent, but five or six cases have been reported, and a pure culture of typhoid bacillus has been found. Abortion is not uncommon, the placenta and the fetus both showing the bacillus in pure culture. The male genitourinary organs are occasionally affected, most frequently with orchitis and occasionally a cystitis. Abscesses of the muscles are not uncommon. Scarcely an organ of the body escapes the malign influence of the fever.

Now that we are awakened to the wide-spread and frequent surgical dangers that may arise in nearly every organ and portion of the body—dangers which can be discovered and mitigated, or sometimes even averted by timely means—the future should show far better results, especially in intestinal perforation, than the past.

¹[NOTE.—After this address was delivered, during my summer holiday, I saw in consultation with Dr. C. P. Thomas, in Spokane, a very unusual case which illustrates exactly the points here made. The peculiar symptomatology enabled us to reach a correct etiology and diagnosis. Although the case was not one of affection of the bone, as at first thought probable, the same peculiarities of late typhoid infection were well illustrated.

A woman, aged 34 years, about January 1, 1904, began to complain of pain in the region of the sacro-iliac joint. The pain was never severe, and came and went. About April 1st, a swelling appeared in the same region. This also came and went, increased and decreased, almost to the point of disappearance. Finally, by July it increased considerably in size, became red and at last ruptured, discharging considerable pus.

Meantime there had been no fever, no loss of appetite or sleep, and, therefore, no loss of weight.

In view of this peculiar history and the absence of systemic symptoms, which would have been very marked if it had been an ordinary pyogenic abscess, I asked the woman if she had ever had typhoid fever. She immediately stated that she had had a prolonged attack in the preceding September and October.

On examination I found two openings nearly in the crease between the buttocks over the lower part of the sacrum. A probe showed that the skin was separated from the underlying tissues down to the tip of the coccyx and upward and to the right as far as the middle of the crest of the ilium. I presumed that there was probably diseased bone at the bottom of the trouble. On operation, however, I found that the external abscess communicated with the interior of the pelvis through the great sacrosciatic foramen, and on investigation of the interior of the pelvis, I found that there was no diseased bone, but that a large abscess had formed in the connective tissue between the anterior surface of the sacrum and coccyx and the rectum. Instead of discharging through either the rectum, vagina or bladder, as would ordinarily have been the case, it had made its egress through the great sacrosciatic foramen and finally ulcerated its way through the skin. Of course, there may have been a typhoid periostitis or osteomyelitis and any fragment of bone have been discharged when the abscess ruptured, but I was not able to discover any evidence of such osseous disease. Moreover, the prompt recovery of the patient after thorough curetting and temporary packing with iodoform gauze seems to indicate that the disease did not involve the bone.

The sharp contrast between the mild constitutional course of such a typhoid infection and the severe constitutional symptoms which would have attended an ordinary pyogenic infection, and the increase and decrease in swelling and pain were most instructive features of the case.]

Remarks on the Surgery of Typhoid Fever.

By NORVELLE WALLACE SHARPE, M.D.,

ST. LOUIS, MO.

I DESIRE to call the attention of the Chair to the fact that in a comparison with the experience of the essayist of the evening, the experience of any operator in the West is of but relatively little value. For without question the surgery of typhoid in the South and West has not been permitted to develop to the degree that it has in the East. We are hardly justified in drawing definite conclusions from the experience of any one man. There still exists a peculiar indifference on the part of the majority of internists in that cases of typhoid fever are not more freely handled in conjunction with a surgical colleague, nor referred, when necessary, for surgical intervention. This is due to one of three conditions, either surgical lesions (particularly perforations of the bowel) do not occur, or if occurring are not referred to a surgical colleague, or on the other hand are not discovered by the physician in charge.

Consideration of a digest of the literature of the subject, even though incomplete, may serve to indicate why the surgical world demands surgical intervention, in the interest of the patient, in certain typhoid complications.

McCrae and Mitchell have reported a series of 275 cases, covering a period of 3 years, in the service of the Johns Hopkins Hospital. The following surgical complications were noted. Furunculosis, 13 (pyogenic cocci); abscess, 2 (pyogenic cocci); otitis media, 1 (pyogenic cocci); periostitis, 2 (in both cases the clavicle); perichondritis, 1 (thyroid cartilage); cervical adenitis with tonsilitis, 1; mastitis, 3; abscess of the liver 1, (practically negative cultures were found, case ended in recovery); suspected cholecystitis, 5 [Keen reported 21 cases of liver abscess prior to 1898. Da Costa reported 22 cases of liver abscess in 1898, Perthes, in 1902, notes one case of liver abscess occurring during convalescence]; appendicitis, probable, 4; intestinal perforation, 8 (7 were operated upon, 2 recovered,

a third dying from toxemia a week later); intestinal perforation with hemorrhage, 2.

Gall-bladder.—1829, Louis recognized the possibility of cholecystitis complicating typhoid.

1887, it was first known that Eberth's bacillus could produce a suppurative inflammation; Fraenckel found same, in pure culture, in an encapsulated peritoneal abscess.

1890, Gilbert and Girode first demonstrated the presence of typhoid bacillus in a suppurative cholecystitis

1897, occurred the important monographs of Osler and Mason.

Quincke, in the "Nothnagel System," indorses Louis' original statement (1829) "that changes in the bile and gall-bladder are much more frequent in the course of typhoid fever than in any other acute disease."

Osler states that Flexner found the bacillus of typhoid in the bile in seven out of fourteen cases.

In the records of the Boston City Hospital the bacillus was found in 21 out of 30 autopsies on typhoid fever patients.

Chiari found the bacillus of typhoid in 19 out of 22 patients brought to autopsy.

Miller found the bacillus in a case of cholecystitis, 7 years after the attack.

von Dungern found the bacillus fourteen years after an attack.

Droba found the bacillus 17 years after the attack, while Hunner found it 18 years after the attack (as has been just alluded to by Dr. Keen).

It is well known that biliary stagnation favors bacillary invasion while a free flow of bile is inimical. Cushing reports that after having introduced within the gall bladder of a dog typhoid bacilli, they were absent, when the bladder was opened, twenty-four hours later.

Gall-stones.—Naunyn, in 1891, enunciated his famous dictum that "gall-stones due to a catarrhal inflammation are induced by micro-organisms."

Richardson, in 1897, suggested the similarity which exists between the bacillary clumping in the bile and a gigantic Widal reaction within the gall-bladder; further, that there was a possibility that these clumps were the foci of subsequent calculi.

Burley, in 1903, reports a case, and records six others, of suppurative cholecystitis, in which the bacillus of typhoid was found, *none of which had ever had typhoid*.

Stewart, in *American Medicine*, of June 25th, adds a similar case.

Intestinal Perforation.—By far the most interesting of all the surgical complications of typhoid are perforations which occur through the walls of the bowel.

1884, Leyden recommended surgical repair as the only rational procedure.

1884, von Mikulicz reported three personal cases and reviewed the literature.

1886, J. C. Wilson indorsed operation "as the only alternative to the patient's death."

Cushing reports a mortality in unoperated cases of 95 per cent.

Keen, a mortality in operated cases of 80.64 per cent. Finney, operated cases, 73.78 per cent. Monod, mortality in operated cases 88 per cent.

1898, Westcott reported 83 cases, covering a period of ten years, operated upon, with a recovery 19.3 per cent.

1899, Keen reported 75 operated cases, recovery, 28 %.

1901, Cushing " 13 " " " 46.1 %.

1903, Escher " 4 " " " 75 %.

Perforation occurs in 3 per cent of all typhoid cases, according to Osler, Fitz and Murchison. Finney finds perforation of the ileum present in 80 per cent of all perforations; of the large intestine 12 per cent, of the appendix 5 per cent. It is generally conceded that a pre-existing appendicitis favors recurrence during typhoid.

Shattuck, Warren and Cobb, found hemorrhage from the bowel associated with perforation, in more than one-third of their cases.

Gesselewitsch and Wanach, 1898, show that 10 per cent of the fatalities in typhoid are due to perforative peritonitis.

Stewart quotes Taylor (1903), "that probably over 16,000 cases perish from perforation, annually, in the United States."

Osler, "of deaths from typhoid 50 per cent are due to asthenia, or of the poison, or of both; 30 per cent to perforation; 20 per cent to hemorrhage and other accidents."

The appendix is found perforated in 9.6 per cent of all

perforation cases (Cushing); in 3 per cent (Fitz); in 7 per cent (Hopfenhausen).

Diagnosis.—The clinical picture presented in perforation during typhoid has been variously interpreted, largely according to the personal equation of the several clinicians. We are safe, however, in considering the following to be the signs and symptoms which are ordinarily most worthy of reliance: Abdominal pain, nausea, vomiting, circumscribed flatness and rigidity, localized tenderness, increasing distention, elevation of temperature, leukocytosis—of these, pain is usually the most important. Crile finds that increased blood pressure is of great value in diagnosis. In those cases characterized by a vicious infection or an enormous outflow of bowel content, or a low degree of subjective resistance, we may find a falling leukocytosis. This is of the gravest prognostic value.

Any of the above-named symptoms may be absent. Murphy interprets collapse as “a late symptom due to peritoneal change with absorption of the products of infection.” The diagnostic scheme advocated by Connell, is not to be countenanced. Escher (1903), in that remarkable series of four cases, in which no attempt to suture the perforated bowel was made, but an enterostomy or colostomy was performed with the greatest possible speed, secured a recovery rate of 75 per cent. McClagen advises a colostomy, for the purpose of drainage, in cases characterized by a partial paralysis of the bowel, with stagnation of bowel content, and autointoxication; and supplements this by placing his patient, when returned to bed, in a reversed Trendelenburg position. It may be briefly said that in operating, the patient should be stimulated when necessary, the body heat conserved while on the table, and all surgical methods of a time-saving character compatible with thorough work and safety should be followed. The claim of Escher that it is poor surgery to attempt to suture perforations in a fragile, or at times, a rotting bowel, is worthy of profound consideration; and the Escher enterostomy, without doubt, demands the serious thought of all surgeons brought in contact with these cases.

I wish to call attention to the words of two of the masters in medicine :

Osler: “What is essential in every serious case is the watchful care of a man who will be quick to grasp changes in

the patient's condition, and who in such cases, is in hourly collusion with his surgical colleague."

von Mikulicz (1884): "If suspicious of a perforation, one should not wait for an exact diagnosis and peritonitis to reach a pronounced degree, but on the contrary one should immediately proceed to an exploratory operation which in any case is free from danger."

I would further suggest that on all frank cases of perforation operation should promptly be made, and *when in reasonable doubt,—explore*. We should not be deterred by formidable complications,—as witness the case reported by Cushing in which recovery occurred after a second and later a third perforation had received surgical treatment.

The attention of those interested is called to an excellent article in the May issue of the *American Journal of Medical Sciences*, by Baer, on the "Distribution of Ulcers in Typhoid Fever."

Kernig's Sign.

Miller (*Am. Jour. Med. Sciences*, June, 1904) presents a study of 190 cases, in 45 of which he found the sign present. The conclusions drawn are:

1. A maximum angle of 115° gives more valuable results than does an angle of 135° , as proposed by Kernig.

2. The angle obtained in any individual case depends in part upon the force used in extending the leg, and for this reason actual measuring of the angle is not essential.

3. The sign is present in a large percentage of cases of meningitis; it is, however, not constant, may be transitory or only appear late, therefore, daily examinations should be made for its presence.

4. It is present in a typical manner, occasionally in a number of widely different diseased conditions and for this reason it is probable there is not a uniform cause for the sign.

5. The sign is occasionally unilateral exclusive of hemiplegia or local trouble that might explain its unilateral presence.

6. The presence of the sign in cases of suspected meningitis is merely another factor favoring the diagnosis. Its absence, especially early, is not infrequent and should not be allowed to outweigh its positive findings.

LEADING ARTICLES.

ACUTE PANCREATITIS.

By EDMUND A. BABLER, M.D., St. Louis.

Previous to the monograph of Clässen, the subject of pancreatitis had received but slight attention—in fact, the prevailing views associated the diseased pancreas with mercurial poisoning. Clässen's researches laid special stress upon the signs and symptoms of acute pancreatitis and inspired interest in pancreatic affections in general.

Klebs, Kuntzmann, Friederich, Gresellens and others advanced our knowledge of the subject and elucidated many doubtful points, but to the worthy Fitz is honor due for being the first to present a thorough, comprehensive and classical memoir on acute hemorrhagic pancreatitis. Every subsequent writer pays him homage and refers to his excellent monograph, from which date an organized study of pancreatitis was instituted.

Very recently Mayo Robson has presented a mine of information concerning pancreatic affections and his Hunterian Lectures must be carefully studied to be fully appreciated.

Moynihan has also presented a valuable monograph which latter will be again referred to.

In Fitz's memoir the following classification is made :

Acute Pancreatitis	{ Hemorrhagic, Suppurative, Gangrenous.
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Considerable attention is also given to pancreatic hemorrhage, the relative frequency and absolute importance of which has only been recently appreciated. He thinks that the hemorrhage is usually diffuse. Hemorrhagic infiltration is to be found in the subperitoneal tissue around the pancreas as well as in the interstitial tissue of the gland. The entire pancreas may be infiltrated. Hemorrhage may be found in the wall of the duodenum and cecum. The solar plexus and portal venous system may be found injected. The writer does not consider fat necrosis to be a cause of hemorrhage in the pancreas; he has

never known an aneurism or embolism to be found in the pancreas.

Mayo Robson, in discussing the subject of hemorrhage in pancreatic affections, considers :

1. That in certain diseases of the pancreas there is a general hemorrhagic tendency which is much intensified by the presence of jaundice.

2. That hemorrhage may apparently occur in the pancreas unassociated with inflammation or with jaundice, or with a general hemorrhagic tendency.

3. That both acute and chronic pancreatitis can and do frequently occur without hemorrhage.

4. That some cases of pancreatitis are associated with local hemorrhage.

The classification of inflammatory affections of the pancreas made by Robson is as follows :

I.—CATARRHAL:

Simple;
Acute,
Chronic.
Suppurative.

II.—PARENCHYMATOUS:

Acute;
Hemorrhagic,
Ultra acute,
Acute.
Gangrenous.
Suppurative (diffuse suppuration)
Subacute : Abscess of pancreas (not diffuse).
Chronic ;
Interstitial,
Interlobular,
Interacinar.
Cirrhosis.

Robson holds that catarrh of the pancreas is as worthy of recognition as a distinct disease as is catarrhal jaundice. He believes that chronic interstitial pancreatitis is in many cases simply a sequence of pancreatic catarrh. Suppurative catarrh of the pancreas corresponds to suppurative cholangitis with which it is usually combined, and is a very serious and frequently fatal disease.

Deaver, Moynihan and other surgeons favor Robson's classification, but Stockton holds that such a classification should not be accepted until it has been proven that inflammatory processes of the pancreas are like those of other parts. Stockton also calls attention

to the difference existing between gangrenous pancreatitis and the ordinary gangrenous process

In this article the three varieties of acute pancreatitis will be presented :

I.—ACUTE HEMORRHAGIC PANCREATITIS.

Etiology.—Taylor thinks that acute pancreatitis usually arises as a result of the entrance through the duct of irritating substances, chemical or bacterial, or it may follow a kick or blow upon the abdomen.

Opie holds that the disease is doubtless in all instances dependent for its origin upon the peculiar anatomical and physiological character of the gland. He contends, as do Thayer and others, that gallstones and cholecystitis predispose to pancreatitis

Moynihan usually finds that a history of alcoholic excess or of indigestion or of gallstones can be elicited.

Mayo Robson, in discussing the etiology of pancreatitis, presents the following :

I.—Predisposing Cause :

1. Obstruction of the ducts from gall-bladder, duodenal catarrh, pancreatic calculi, cancer of papilla or head of pancreas, ulcer of duodenum, ascarides and lumbrica.
2. Injury from bruises, crush, wounds, or manipulation in operation.
3. Hemorrhage into the gland.
4. General ailments, *e.g.*, typhoid fever, influenza and mumps.
5. Anatomical peculiarities of the pancreas or its ducts.
6. Atheroma or fatty degeneration of the blood vessels.

II.—Exciting Cause :

1. Infection conveyed from the blood, *e.g.*, in pyemias from the duodenum, as in gallstone obstruction or intestinal catarrh, and by extension inward from adjoining organs, as in gastric ulcer or cancer eroding the pancreas.

2. Irritation, as in alcoholism.

Fitz holds that acute pancreatitis commonly originates by the extension of a gastroduodenal inflammation along the pancreatic duct. The occurrence of hemorrhage in the pancreas may induce it. Fitz concurs with Robson, who finds that pancreatic hemorrhage may precede or follow the inflammatory process.

Symptoms.—Acute pancreatitis is recognized clinically as acute peritonitis in the epigastric region.

Sudden intolerable, often overwhelming pain in the upper part of the abdomen; collapse, faintness and vomiting follow in quick succession. The pain is at first continuous and often lasts several hours without intermission unless relieved by morphin. It may radiate around the lower costal margin of one or both sides to the back. In its intensity and in its character and localization it can only be compared with that which follows perforation of a gastric or duodenal ulcer. Vomiting is frequently repeated and occurs shortly after the onset of pain. Ejected matter is described as bilious. The temperature is, as a rule, slightly elevated, though a rise beyond 101° has been noted. If jaundice be present it is due to an associated catarrh of the common bile duct.

Halsted lays special stress upon cyanosis of the face and abdominal wall; it is often quite marked. Moynihan has seen it in a few cases.

Moynihan succinctly depicts a characteristic case of acute pancreatitis in the following words: "The patient is generally very stout, there is commonly a history of gallstones, indigestion or alcohol. He is suddenly seized with pain in the epigastrium; the pain is agonizing and intolerable; collapse follows and vomiting sets in. The pulse is rapid and thin; the temperature is slightly elevated but may be irregular. Jaundice occurs frequently. There is no intestinal obstruction; flatus and often feces passing naturally. At the end of twenty-four hours the epigastrium, which before was tender and rigid, now shows evidence of slight distension and is more resistant. Cyanosis of the face, abdominal wall or thigh may be observed. Death may supervene in from three to five days. When suppuration, with or without hemorrhage occurs, the fatal issue results in from seven to ten days."

Robson classified the symptoms as follows:

I.—Digestive:

1. Steatorrhea; the fat occurs in the stools as fat droplets, as fatty acid crystal and as soap crystals. When jaundice and interstitial pancreatitis co-exist, there is a great excess of fat in the stools.

If the urinary pancreatic reaction (as perfected by Cammidge), diabetes and azotorrhea accompany the steatorrhea, and an epigastric tumor be present, the diagnosis of disease of the pancreas is certain.

The white stools seen so often in pancreatic disease are due to solidification of the fat and not to any absence of bile.

2. Azotorrhea, or faulty digestion of albuminous foods. The presence of azotorrhea along with leporrhea, the presence of pancreatic disease should be suspected, and if the pancreatic reaction in the urine be also present, the diagnosis is certain.

3. Seaborrhea pancreatica.

4. Pancreatic diarrhea and alteration in the stools. Exceedingly soft, bulky, greasy, pale motions, due to want of digestive power, are characteristic of pancreatic disease.

5. Dyspepsia and alteration of the appetite are constantly associated with pancreatic disease.

6. Emaciation.

7. Nausea and vomiting are frequently associated with acute pancreatitis. The vomitus contains altered blood (black vomit) at an earlier period than any other peritoneal condition.

Fitz regards the symptoms essentially those of a peritonitis beginning in the epigastrium and occurring suddenly during ordinary health without obvious cause. The pain is sudden, severe and often intense. Nausea, vomiting, sensitiveness and tympanitic swelling of the epigastrium develop. Prostration, often extreme, frequently collapse, low fever and feeble pulse. Absolute constipation for several days, is the rule, but diarrhea sometimes occurs.

Opie asserts that the localization of the pain and the severity of the symptoms are the most characteristic features of the disease.

Körte considers the increasing collapse to be the most marked symptom of hemorrhagic pancreatitis.

Mayo Robson presents the following "physical signs" of the disease:

1. Tumor.—A perceptible enlargement of the pancreas can often be felt in case of acute and chronic inflammations and abscess of that organ.

2. Fever.—Usually associated with both acute and subacute pancreatitis. In the hemorrhagic variety the temperature is usually subnormal.

3. Pain and tenderness, are variable symptoms and their absence means little.

4. Hemorrhage may or may not be present. Glycosuria and indicanuria are metabolic symptoms that can not be relied upon.

In 1820 Kuntzmann observed the appearance of fat in excess in the feces in connection with pancreatic disease.

In 1882 Balser suggested the inappropriate name, fat necrosis, for the saponification occurring in the subperitoneal fat, omentum, mesentery, etc., in connection with acute pancreatitis.

The fat is split up into fatty acids and glycerin, the latter is absorbed but the former, being insoluble, remains in the cells and unites with the calium salts, forming yellowish-white patches of various sizes in those areas.

Flexner regards this process as the effect of the fat-splitting ferment of the pancreatic fluid which has in some way escaped from the duct into the surrounding tissues. Opie, Robson, Oser and others hold the same view, while Fitz thinks that the disseminated fat necrosis found associated with fatal pancreatic disease is to be regarded as the result of the inflammation of the fat tissue extended from the pancreas or its vicinity. He further contends that there is both a necrotoxic necrosis of the fat tissue and an inflammatory necrosis, the latter tending to become gangrenous, both of which may be found within or near the pancreas.

It may be said that whenever the surgeon opens the abdomen and finds a fat necrosis, he should carefully and thoroughly examine the pancreas, even though Kraft has produced evidence to prove that fat necrosis is not necessarily a sign of a preceding pancreatitis.

Pearce thinks that fat necrosis bears the same relation to obstruction of the pancreatic ducts as jaundice does to hepatic obstruction.

Pancreatic Reaction.—Canmidge has recently perfected a technic by means of which he deems it possible to make a diagnosis of pancreatitis by an examination of the urine alone. He describes the procedure as follows:

Reaction *A*.—The specimen of urine to be examined is filtered, and 10 cc. of the filtrate are poured into a small flask. One cc. of strong HCl is added and a funnel having been placed in the neck to act as a condenser the flask is placed on a sand bath and gently boiled for ten minutes after the first sign of ebullition is detected. A mixture of 5 cc. of the filtered urine and 5 cc. of distilled water is then poured into the flask, which is afterwards cooled in running water. The excess of acid is now neutralized by slowly adding 4 grams of lead carbonate and, after standing for a few minutes to allow of the comple-

tion of the reaction, the urine is filtered through a moistened filter paper and the flask is washed out with 5 cc. of distilled water onto the filter. To the clear filtrate are now added 2 grams of powdered sodium acetate and 0.75 gram of phenylhydrazin hydrochlorate and the mixture is boiled for from three to four minutes on the sand bath. The hot fluid is then poured into a test tube and allowed to cool undisturbed. After the lapse of a period, varying with the severity of the case, from one to twenty four hours, a more or less abundant flocculent yellow deposit is found at the bottom of the tube, and this, when examined under the microscope with a $\frac{1}{6}$ -inch objective, is seen to consist of sheaves and rosetts of golden-yellow crystals. As the presence of sugar in the urine would obviously vitiate the results thus obtained it is necessary, before proceeding to the test to make sure that the untreated urine does not give a reaction with phenylhydrazin. This can be accomplished with Fehling's solution, but it is better to carry out a control experiment with phenylhydraxin hydrochlorate and sodium acetate in the manner I have just described, omitting the preliminary boiling with HCl.

Should the control experiment show even a trace of sugar it must be removed by fermentation, with subsequent boiling to expel the alcohol formed. The presence of albumin in the urine is also liable to cause trouble and is best got rid of by treatment with ammonium sulphate or by acidifying with acetic acid, heating and filtering.

The reaction was found positive in other affections. By previously treating the pancreatic urine with perchlorid of mercury, however, the test becomes of inestimable value and trustworthy. The differentiating test depends on the fact that the formation of the crystals described in reaction *A* is interfered with in inflammation of the pancreas by a preliminary treatment of the urine with perchlorid of mercury, while such treatment does not effect the appearance of crystals in cases giving rise to a positive reaction.

Cambridge describes the *B* reaction as follows: Twenty cc. of the filtered urine are thoroughly mixed with half its bulk of a saturated solution of perchlorid of mercury. After standing for a few minutes it is carefully filtered and to 10 cc. of the filtrate 1 cc. of strong HCl is added. The mixture is then boiled for ten minutes on a sand bath and subsequently diluted with 5 cc. of the filtrate from the mixed urine and perchlorid of mercury solution, and 10 cc. of distilled water. After

cooling it is neutralized with 4 grams of lead carbonate, and the succeeding stages of the operation are carried out as in *A*.

Cambridge made extensive experiments, and a careful observation of the crystals isolated from the urines of various types of pancreatic disease showed that while there is a general resemblance, certain variations occurred and to the differing rate of solubility of crystals in dilute sulphuric acid was remarked and found to be of still greater value. If the crystals obtained in reaction *A* be observed under the microscope while a 1 in 3 dilution of H_2SO_4 is being irrigated under the cover glass, they will be seen to turn brown when the acid reaches them, and dissolve. In acute pancreatitis the interval that elapses between the first appearance of the brown color and complete solution varies from a few seconds to half or three-quarters of minute. In chronic pancreatitis it extends from half to one and a half, or rarely to two minutes, while in malignant disease the crystals do not entirely disappear until from three to six minutes.

The practical results of the urinalysis are summarized as follows :

1. If no crystals are found by either the *A* or *B* method the pancreas is not at fault, and some other explanation of the symptoms ought to be sought.

2. If crystals are obtained by the *A* method but not by the *B* reaction, active inflammation of the pancreas is present and surgical interference is generally indicated.

- a*. The crystals obtained by the *A* method will, in acute inflammation, dissolve 33 per cent sulphuric acid in about half a minute.
 - b*. In chronic inflammation the crystals obtained by the *A* method will take one or two minutes to disappear.

3. If crystals are found in preparations made by both the *A* and the *B* methods there may be—*a*, malignant disease of the pancreas, when the crystals will, as a rule, take from three to five minutes to dissolve, and operation is inadvisable; *b*, a damaged pancreas due to past pancreatitis, when the crystals will dissolve in from one to two minutes; *c*, some disease not connected with the pancreas, when the crystals dissolve in about one minute. In the two latter, *b* and *c*, the urgency of the symptoms and the condition of the patient must decide the need for an exploratory incision, but there is generally not much difficulty in referring the case to one or the other of the groups when the clinical history is considered in conjunction with the result of the examination of the urine.

Diagnosis.—In cholecystitis the pain is never so severe and constant, and is localized over the gall-bladder, radiating to the back, breast or shoulder. There is also a history of previous attacks.

In perforated gall-bladder the symptoms are generally localized in the right side. Previous attacks.

In intestinal obstruction the site of pain and tenderness is different; fever is absent, distended coils noted, flatus not expelled, general tympany usually present, often fecal vomiting. Moynihan says that there is no intestinal obstruction since flatus and often feces pass naturally. Deaver adds that repeated enemas, previous to the development of peritonitis, finally restores the peristalsis of the bowel.

In perforative peritonitis a history of previous gastric or duodenal ulcer can usually be elicited, and the pain is not so sudden and intense and the collapse is not prominent (Thayer). In visceral perforation the immediate shock is followed by reaction. In pancreatitis the pain is deep-seated, while in perforation peritonitis it is superficial, and there is hyperesthesia (Douglas).

In Hockhaus' three cases the disease in the pancreas was located by the localization and persistent character of the pain.

Robson finds that there is no pathognomonic sign which will show conclusively that the pancreatic ducts are occluded, unless it be the extremely rapid loss of weight. He concurs with Fitz, who holds that, "acute pancreatitis is to be suspected when a previously healthy person or a sufferer from repeated attacks of indigestion is suddenly seized with violent pain in the epigastrium, followed by vomiting, collapse, and in the course of twenty-four hours, by circumscribed epigastric swelling, tympanitic or resistant, with slight rise of temperature." To the reviewer Fitz' rule is a most excellent one, and when combined with Cammidge's technic, a diagnosis should be quite possible.

Some years ago Thayer stated that if a fat-splitting ferment could be demonstrated in the urine we would possess our first diagnostic sign of pancreatic disease.

II.—ACUTE SUPPURATIVE PANCREATITIS.

This affection may be the result of acute hemorrhagic pancreatitis. The onset may be more gradual and indefinite and associated with a continued or irregular fever, perhaps with chills and epigastric rigidity.

Fitz reported 21 collated cases in which fever was the most con-

spicuous symptom ; it was manifested about the third day. The upper abdomen was usually distended about the liver ; hiccough was often quite obstinate ; chilly sensations or distinct chills frequently complained of. He found that the symptoms were usually sudden in onset and quite severe. Vomiting may be incessant. Some cases may extend over a period of several months ; there may be little or no fever ; stools very fetid and not stained with bile. Jaundice occurred in less than one-fourth of Fitz' cases. A circumscribed tumor was seldom found but a swollen epigastrium is the rule. The spleen is usually of small size and of normal density. If the patient lives for a month there may develop a severe diarrhea which is followed by a subsidence of the symptoms for a few days or a week, then the abdomen becomes distended and death follows.

Thayer holds that if a tumor develops it does not move with respiration. It is immovable and fills the left hypochondrium, extending across the epigastrium.

Palpation elicits the most valuable symptoms—a tender mass in the epigastrium (Deaver). The latter writer thinks that suppurative pancreatitis may coexist with the necrotizing form and is characterized by purulent collections in the parenchymatous or interstitial tissue of the gland with sometimes a general infection.

Opie finds that a fat necrosis occurs less frequently in the suppurative than in the hemorrhagic variety.

Potter reports a case in which the pain began in the pelvis. The patient had suffered from boils and he believes that the infection was carried to the pancreas by the blood stream from one of the boils. His case died in sixty-six hours after the onset of the symptoms. Diagnosis was not certain during the life of the patient.

Pearce concludes that the suppurative form of pancreatitis is due to some local influence causing limited necrosis and suppuration. It is probable that duct obstruction may lead to this condition by favoring the entrance of bacteria.

III.—GANGRENOUS PANCREATITIS.

In 1681 Grisellius first called attention to this form of pancreatitis. In 12 of the 15 cases collected by Fitz the onset was sudden and without definite cause. The abdominal pain is generally intense or severe and referred to the stomach, navel, left hypochondrium, back and left loin, and resembles the pain of biliary colic. In 9 of Fitz'

cases vomiting was present. The evacuated matter is sometimes black or bloody and may cause the diagnosis of intestinal obstruction to be made. Chills are occasionally present; the temperature is likely to be low but may be as high as 104° ; fever may not be a conspicuous sign at any time. In half of the 15 cases abdominal swelling was present, but usually occurred late and varied in intensity. Swelling was usually tympanitic, dulness, however, being elicited in some cases in the flanks. The spleen was palpable in only one instance.

Fitz concludes that gangrenous pancreatitis usually results from a hemorrhagic variety and proves fatal in the course of a few weeks.

Opie thinks it to be a secondary stage of the hemorrhagic lesion. He collected 41 cases and holds that gangrenous pancreatitis is usually associated with suppuration limited to the lesser peritoneal cavity.

Fitz was the first to emphasize the association of hemorrhage and gangrene in this form of pancreatitis.

The treatment of acute pancreatitis will be thoroughly discussed in taking up Pancreatic Surgery, to appear in a following number.

EDITORIAL COMMENT.

St. Louis Meeting of the American Neurological Association.

On Thursday, September 15, 1904, the Association was called to order by its President, Dr. Frank R. Fry, in the parlors of the Planters' Hotel. The attendance at the opening session comprised about one-third of the total membership of ninety-seven. A few of the members, notably Drs. Dana and Morton Prince, arrived later in the week. The work of the meeting was pushed vigorously. The papers were listened to attentively and were discussed with keen discrimination of essential features.

Adjournment at 1 o'clock, at 3 o'clock the members met in the German Section of the Educational Building at the World's Fair Grounds to witness a demonstration of the Epidiascope recently purchased by Washington University.

A short clinic demonstrating beri beri was held at the hospital in the Philippine Reservation at 4 o'clock and then the members were left to their individual preferences in seeing the Fair.

A reception tendered the Association and a number of local men of the medical profession, by Dr. Fry, in the evening, at the Missouri Building, was well attended and pronounced thoroughly enjoyable.

Following the Friday session a luncheon, tendered by Drs. Moyer and Patrick, of Chicago, to the Association and its guests was had at the Planters'. Leaving the Hotel in automobiles the members were given a view of the City and later arrived at St. Luke's Hospital where a clinic was held.

The annual banquet occurred at the Tyrolean Alps at 8 p.m. The neurologists play as vigorously as they work and all had a jolly good time as befit a lot of "jolly good fellows."

A session was held Saturday morning, followed by an executive session during which new officers were elected and Philadelphia selected as the next place of meeting.

The St. Louis Medical Society was treated to an evening of unusual interest at its regular meeting Saturday night, when Dr. Mills, of Philadelphia, discussed Cerebellar Tumors; Dr. Dana, of New York, Psychoneuroses, and Dr. Moyer, of Chicago, Spinal Injuries.

Among the substantial benefits arising from the occurrence in St. Louis of the World's Fair we count as greatest the stimulus to advanced thought along all lines of human endeavor. Not least among those benefited and inspired to better, harder and more productive work are the physicians, who have had their special meetings here, in each special line. May we add that the American Neurological Association has fulfilled a worthy purpose in coming so far West and has done permanent benefit to neurology in St. Louis.

International Congress of Arts and Sciences.

Perhaps never in the history of the World has there been such a large conference of scientists as was the International Congress of Arts and Sciences which met in St. Louis, September 19 to 25, 1904. The expense of this Congress must have been enormous and Peterkin's question may properly be put: What good came of it? The good which may come through the meeting is as yet not apparent; certainly, we people of St. Louis, flatter ourselves that we have met the most distinguished scientists of the age, and other visitors may also feel rather puffed up from having grasped the hand of Sir William

Ramsay and Prof. Waldeyer, or Prof. Kitasato. But these are incidental benefits.

The papers read gave the history and progress of all modern knowledge, yet, we suppose, most of the facts stated were known to the listeners. Still, here and there, no doubt, the new rang through the concordant notes of the old and brought pleasure and instruction to the hearers. Then it is not what was immediately taught that pays for the expense of the Congress.

No, its benefits extend much deeper and will spread much wider. The Congress will have its greatest purpose in its service as a stimulus to our greatest minds to do their best. They did their best and from the enormous literature gathered may spring an encyclopedia of knowledge which will serve for many ages as the criterion for Twentieth century science and art.

A general review of the work of the Congress will appear in the next number.

American Association of Obstetricians and Gynecologists.

This National Association held its Seventeenth Annual Meeting in this city, September 13-16, 1904. Dr. H. W. Longyear, of Detroit, was elected President for the coming year. The retiring President, Dr. Walter B. Dorsett, of St. Louis, was appointed Councilor. The gathering was large and the scientific papers had the qualities which characterize medical literature of the highest order. There is a constant advance in diagnosis and operative technic, but medical and hygienic treatment do not seem to receive the attention which they merit.

American Roentgen-Ray Society.

The Fifth Annual Meeting of this Society was held in St. Louis, September 9-13, 1904. Dr. Charles L. Leonard, of Philadelphia, was elected President for the ensuing year. The Roentgen Ray and Tuberculosis occupied a large portion of the scientific discussion. The general conclusion of the most conservative members was that the x-ray is a valuable addition to our armamentarium for fighting tuberculosis. Burdick, of Chicago, declared that he had much better results when using the Roentgen-ray in addition to other remedial measures.

Several members had obtained very encouraging results in tuberculous adenitis.

However, the effect of the x ray treatment in tuberculosis is less brilliant than in certain forms of malignant disease, this may partly be due to our imperfect technic in the former disease. No one should depend on this remedial measure exclusively in combatting the white plague.

Reports on malignant disease treated by this ray were numerous, and while the results often were striking, it can only be regarded as an adjuvant to other surgical measures.

MEDICAL RESEARCH.

Review of Progress in Physiology, Physiological Chemistry, and Experimental Medicine.

In Charge of A. S. BLEYER, M.D.

Relative Pressure in Pleura and Intestine.

Aron publishes an interesting article in the *Berliner Klin. Woch.*, 41, 30, on the relative pressure in pleura and intestine. Summarily, he finds that the pressure of gases within the intestine influences very decidedly the pressure in pleura; there should be a normal relation, to which many pathologic variations are possible.

Spinal Motor Localizations.

Marinesco summarizes his work on the motor areas of the cord (*La Semaine Med.*) in demonstrating that the piling together of motor cells in certain areas is in correspondence with muscle groups of more less correlative action. In other words, that the anatomic arrangement of muscle groups is harmonious with the anatomic arrangement of nerve cell groups.

The physiologic explanation offered being an effort by Nature to economize and to insure more rapid and related transmission of impulses which will usually be required simultaneously.—*Jour. Am. Med. Ass'n*, September 24, 1904.

The subject of spinal localization is still very obscure, as was stated at the recent Neurological Congress, by Sano, Grasset and Parhon. They emphasized the fact that further research is needed, and propose that the theories extant were too exclusive.

The Epithelium and Corium.

Merk demonstrates that the epidermis cells can be dissolved from each other and from the corium, first as dried sputum can be dissolved from a china surface, since they are shown to have no connection other than their contiguous position, sustained by the the interposition of a mucilaginous vehicle.—*Monat. f. Prak. Derm.; Jour. Am. Med. Ass'n*, August 20, 1904.

Colored Audition.

It is asserted by Chalupecky (*Wiener Klin. Rund.*) that the unconscious association of certain colors with certain sounds can be physiologic, since it is explained in the light of dual sensations, just as certain sensations of hearing will produce, in many individuals, chilly sensations running up and down the back.

Color hearing, however, requires rather an exceptionally keen activity of the cortical cells.—*Ibid.*

The Appetite.

Meisl (*Ibid.*) claims for the food appetite a strong metabolic factor, inasmuch as its impulses from the cortex play such an important rôle in the excitation of so many sensory centers, controlling in a great measure the secretion of the digestive juices, and the further utilization of food.

The appetite alone produces a flow of salivary secretion and a gastric secretion. Without this "appetite gastric juice" the digestion of milk, meat and bread stuffs becomes appreciably a slower and weaker process. The enjoyment of food becomes, therefore, a physiologic prerequisite.

Meisl further asserts that the inhibitions to the pancreas are arrested by appetite, and that the secretion is actually increased. The removal of inhibiting influences is very important and comes into full play at the instance of the splendid mood—the feeling of well-being, as it has been described, which follows a good meal—physiologically enjoyed.

Appetite is the highest mental evolution of the instincts, and is for the preservation of the individual, what sexual love is for the preservation of the race.

Elimination by Leukocytes.

The elimination of foreign substances of almost every nature by leukocytes has been already thoroughly demonstrated, but it has been emphasized by Maurel (*Presse Med.*), who establishes several new points in this connection, *e g.*, that the amount of poison necessary to kill an animal is in exact proportion to the amount required to kill a single leukocyte. If absolutely insoluble substances are taken up by the leukocytes, they are found to accumulate in the lymphatic ganglia. This fact, however, does not mean that we are not to use insoluble substances in therapeutics—it means quite the reverse, for it shows that such substances are, in fact, taken up, are retained in the organism and eventually are broken up, their action, therefore, through the mediation of the leukocytes is assured and is found to be less transient—more durable.

This is a very important fact for therapeutics, since the absorption of insoluble substances has been the subject of many discussions.

Opium paralyzes leukocytes and prevents phagocytosis, so that it would be illogical to administer opium in diseases where the co-operation of leukocytes is necessary.

The therapeutic advantages of fixation abscesses is supported in a great measure by the manner of action of the phagocytes—their property of transporting foreign substances to different parts of the organism.—*Ibid.*, September 24, 1904.

The Neuron.

The neuron as a cellular unit is sharply attacked by Bethe (*Deutsche Med. Woch.*) In the crustacea he has repeatedly made out a fibrillar anastomosis, which he asserts is more than probable in man. It has been demonstrated at least by recent research that the axis cylinders of the peripheral nerves have not always their origin in a single nerve cell, but can be of multicellular origin. In this connection the following points are noted: There are nerve elements existing in the nervous system other than the neuron complexes, which are genetically independent of them. Furthermore, the two or more sets are not morphologically of equal value, and they are not units either from the physiologic or trophic view point.

The name neuron should be retained, but should be used in a limited sense.—*Ibid.*

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of June 30, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. J. L. BOEHM presented a specimen of

Syncephalus Monoprosopus.

This specimen is believed to have been mummified for fifty years and came from Columbia, South America. It belongs to the class *Syncephalus Monoprosopus*. It has two distinct heads, two bodies and one face. These are not rare, there being about eighty known instances among mammals and eighteen among birds. Piersol and Hirst report one case. The method of embalming is a secret of the natives of the country. The specimen belongs to a physician from Columbia who will present it in Paris.

Dr. W. W. KEEN, of Philadelphia, Pa., addressed the Society (see page 288, this issue) on

The Surgery of Typhoid Fever.

DISCUSSION.

Dr. FRANK J. LUTZ said that if he were to respond he would be limited to a recital of his personal experiences. Dr. Keen, the originator of the operation for typhoid perforation so far as the English speaking world is concerned, brought the matter before the profession in a monograph with which all are familiar. All, occasionally see cases of perforation which have not been operated upon. Those in general practice can no doubt recall many cases which the autopsy proved should have been operated upon. The speaker had seen one case of hip joint dislocation in a child who, after some months of suffering, was subjected to a reduction and made a fair recovery. This girl had as an additional complication two abscesses, one above and the other

below the elbow, from which there was successfully cultivated the typhoid bacillus. At the time he did not understand the relation of the typhoid infection to the dislocation. He thought it due to trauma, although assured by the mother and nurse, both intelligent women, that no trauma had occurred. He had also seen one case of gangrene of the intestine in the course of typhoid fever, and he did not understand the relation between the typhoid infection and gangrenous intestine. He had seen five cases of empyema following typhoid perforation. It had been a great pleasure to have a verbal explanation of Dr. Keen's monograph, which the doctor plans to bring up to the present status of the subject. Dr. Keen's address had been not only highly entertaining but very instructive.

Dr. HERMAN TUHOLSKE thought that to attempt to discuss the paper read by Dr. Keen would be like carrying coals to Newcastle. All that could be said had already been said by him who is the teacher of the work on typhoid fever. It had been the most instructive medical evening he had ever lived. He had enjoyed hearing from Dr. Keen's lips all that he has taught by his writings for many years. He had seen one of the rarer forms of typhoid sequels. An account of the case was published in the first number of the *Bulletin of the Washington University*. It was a dermoid tumor of the ovary, reported by Dr. Jonas. There was found a large tumor containing pus. There were no adhesions, there had been no intestinal disturbance. Dr. Fisch found the bacillus and established beyond doubt the existence of the typhoid bacillus in this tumor. The patient had had typhoid fever six years before. It is therefore one of the interesting, rare cases of which so few have been reported. A second form which is exceedingly rare is that of muscular abscess in no way connected with the bone or periosteum. This case was on the upper arm, in the triceps muscle. There were none of the symptoms of an inflammation present. It was of a chronic type, the center of it almost fluctuated. Gumma was suspected but the history was not there. Finding it not to be a gumma it was incised and in the pus it contained there was demonstrated the typhoid bacillus. A third case seen by him is not so rare, for next to the perforations in the ileum those in the adjacent parts are less rare. There were two large perforations in the cecum. Undoubtedly there was considerable necrosis in that part. There was a large fecal fistula and the finger introduced into it, after being partly withdrawn it could be passed into a second

opening. The patient had gone through all the peculiarities, the abscess breaking, and finally forming a fecal fistula. An incision was made, a fairly good sized piece taken out, and the patient made a good recovery.

So far as his operations for typhoid perforation were concerned, Dr. Tuholske felt that he had not been very successful. In his first case, although he sewed over one that he thought to be an impending perforation, the patient died. In a second case the typhoid perforation was found and sewed over, but that patient died also. He has had individually no recovery, but is not at all discouraged, and stated that he believed the urgent appeal of Dr. Keen's to the profession would do a lot of good and that the profession will one day save a fair proportion of such cases. He added that he wanted to be one of Dr. Keen's humble disciples in this matter.

Dr. M. G. SEELIG stated that in Mt. Sinai Hospital, New York, he had had a great deal more experience with typhoid perforation than with the other surgical complications of typhoid; he would, therefore, limit himself to a discussion of intestinal perforation. His experience had been limited entirely to cases under his care during 1902 and 1903 while senior and house surgeon at the Mt. Sinai Hospital. During 1902 there were admitted 107 cases of typhoid. There occurred among these 9 perforations; 8 were operated upon with a mortality of 88.5 per cent, *i.e.*, 1 case recovered. In 1903 there were 109 cases of typhoid admitted; 10 perforations occurred, 8 were operated upon, with a mortality of only 50 per cent. The improved mortality rate is to be attributed to the fact that the cases were more appreciatively studied and operative interference earlier instituted. In every case where a diagnosis of perforation was made the perforation was found. The house physician on his daily rounds made a careful physical examination of every typhoid patient. The importance of this daily examination has been brought out by Dr. Keen. Any sudden change in the condition of the patient was called to the attention of the house physician, who then called in the house surgeon and if it were deemed necessary, the attending surgeon was then sent for. If a diagnosis of perforation was made, operation instituted immediately or as soon as the consent of the relatives could be obtained. The one clear and concise fact resulting from this study was the variation in the symptom complex of typhoid perforation. The clinical picture varied in every

case and to such a degree as to make a diagnosis always difficult and at times extremely uncertain. Abdominal pain was found to be the most constant symptom. No reliance could be placed on the pulse, the temperature, the leucocyte count or the facies. Practically, the sheet anchor of diagnosis was the careful consideration of the general condition as compared with the patient's condition while under the internist's observation. The speaker was compelled never to draw deductions from any one symptom, until he had ascertained how long that symptom had been present. The pulse might have been high from the beginning, or the leucocyte count might have been 12,000 to 18,000 from the beginning of the fever, or meteorism might have been so extensive that liver dullness was obliterated from the sixth day on, or the facies might have been distinctly Hippocratic, yet the diagnosis of perforation was not assured. In one of these cases, the internist reported that the suspicious symptom had existed from the beginning of the disease. The surgeon, though called early, must be largely dependent upon the internist, who influences diagnosis and his whole course of action.

Dr. N. B. CARSON has had some little experience with the sequels of typhoid. None of the tissues escape. That which is of most interest is the involvement of the intestinal canal. He, though having seen a number of these cases in which he wanted to operate, up to the present time has never been accorded that privilege. Usually the family objected and the patients have most of them gone to their grave in consequence. He had seen cases, however, where he thought there was perforation and the patient got well. His sister had typhoid and was recovering when apparently there occurred a perforation and they expected a fatal result; much to his surprise she got well. Only recently a brother of a friend of the speaker had all the symptoms of typhoid perforation. An operation was not done and the patient recovered; yet the symptoms were all those of perforation. Now, how is it possible to distinguish? Year before last he saw two cases operated upon at Roosevelt Hospital. One was operated upon within twenty-four hours after perforation had occurred; the patient died. The next day another patient was operated upon, having all the symptoms of perforation; a perforation had not occurred, although all the coats except the peritoneal coat were perforated. The speaker heard later that this patient also died. He added his urgent plea to physicians in cases of suspected perforation to call in a surgeon early and

let him judge whether operation is to be done, for if success is expected the operation must be done early. He believes less harm will be done in those cases where operation is done and no perforation found than in those cases where they are left to take their chances. Montcalm, of Montreal, urges operation immediately without regard to shock. Dr. Carson stated that he could not agree with him in this, although he favors early operation. In a case that occurred at the City Hospital within the last year he had advised against operation on account of extreme shock; he was sure the patient would have died on the table from the shock; but there are other cases where it is possible to operate and save the patient thereby.

Dr. WILLARD BARTLETT said that Dr. Keen had mentioned one point that could not be passed over lightly – the method of surgical treatment of the intestine after perforation has occurred. The custom is and has been to sew up the perforation. Just on this point he wished to lay stress on an article by Escher, of Triest, who advocated the suture of the intestine to the abdominal wall, letting a fecal fistula form. He gave a report of four cases treated by this method, with three recoveries. After reading an account of these operations he was called upon to operate upon a young man twenty hours after perforation had occurred. Four inches from the ileocecal valve the perforation was found, he simply fastened the intestine to the abdominal wall with two sutures and the man recovered. In three months the fecal fistula closed, Escher found that out of eight cases four recovered. Of course, such small statistics do not count for very much. One great advantage in this operation is the saving of time, his operation requiring just thirteen minutes.

Dr. PAUL Y. TUPPER expressed his appreciation of Dr. Keen's scholarly address. His own experience had been limited, dating back to his observation of typhoid as a general practitioner, he could recall many complications which at that time were thought to be simply incident to the generally depressed condition of the patient; it is now known that these are directly the result of the typhoid infection. He had seen a number of cases of abscess, notably of the parotid gland, and he could see no reason why that gland especially should be affected, but it does occur frequently. Stiff joints are a common sequel. Referring to intestinal complication, he had seen no case where he had the opportunity of operating, but he had made up his mind to act

promptly and finish as quickly as possible whatever had to be done. There would seem to be no reason why the simple attaching of the perforated intestine to the abdominal wall, or the putting in of a drain, should depress the patient markedly—the mortality from operative interference would be very small if there were simply put in a drain, rather than anything attempted in the way of a prolonged operation.

Dr. A. E. MEISENBACH felt that all had received additional impetus in the surgery of typhoid fever. One of the first complications he had ever seen was necrosis of the upper jaw, he removed the necrotic bone and the diseased part; he sees the young man every now and then and with exception of having an angle of the mouth drawn upward he has entirely recovered. He had a case last December showing the difficulties that confront one making a diagnosis. The patient was between 15 and 16 years of age; for a month he had been treated by a physician for malarial fever. On December 22d he came into the hands of a college of his, on the 26th the temperature raised and he complained of epigastric pain, on the 27th his temperature became subnormal. He saw the case with the physician twelve hours after the supposed lesion had occurred; during the night the patient had felt uncomfortable, but there was nothing to lead to a diagnosis of perforation, there was some absence of liver dullness, there was no pain and the facies were not characteristic of intestinal involvement; he did not advise operation because there did not seem any indication for operation—that night the patient died. Upon opening the bowel the cavity was found full of fecal matter and within two inches of the ileocecal valve there was a perforation.

Dr. H. C. DALTON was particularly pleased that Dr. Keen had called attention to the necessity for examining the intestine for other perforations, or impending perforations. In one case where he had found a perforation about a foot from the ileocecal valve, the patient died and at the autopsy he found another perforation about two feet higher up. In a second case upon which he operated the patient recovered from the operation and died two weeks later from the fever, the post mortem showing the operation had been a perfect success. He expressed himself as being extremely pleased to have been present and hear Dr. Keen's address, and felt that he had been greatly benefited and instructed.

Dr. FRANCIS REDER most heartily thanked Dr. Keen for his very

valuable paper and congratulated the members of the Society upon having Dr. Keen with them. He could not imagine anything more elevating or more stimulating than to listen to such a man. Aseptic surgery has placed the young doctor and the old doctor almost on an equal basis, but it is the diagnosis and the practice what brings out the difference. There is something about an old doctor, an atmosphere of truth and love and confidence that inspires the younger members of the profession with a feeling of modesty and respect toward him. The members of the Society were all very glad to have Dr. Keen with them and hoped he would come again.

Dr. F. G. NIFONG felt that it would be mere presumption for him, a juvenile in surgery, to discuss the paper of Dr. Keen, a nestor, but he did wish to ask a question: It is the difficulty of diagnosis that has given him trouble; he had seen one of the cases mentioned by Dr. Carson, a case that recovered though there were all the classical symptoms of perforation; operation was not done, they simply paralyzed the bowel with opium and the patient recovered. He had seen two cases of typhoid in which thrombosis of the vein of the lower extremity was ushered in by rigor and rise in temperature. Would it not be possible to have the classical symptoms with thrombosis of the mesenteric veins and think it was a perforation?

Dr. ROBERT LUEDEKING said that he could not report anything that touched upon the burning subject of perforation in children, this being a rare complication in the young. With perforation in patients of older age he has had some experience. After reading the classical writings of Keen and Osler on the complications of typhoid fever; he has been very alert in his watch for such complication. Four cases of perforation have occurred in his practice. Only one came to operation. In this case perforation took place early in the morning, and operation was proceeded with at 11 o'clock. The patient was in fairly good condition, but it was found that a tremendous serous exudation had taken place; there was an enormous quantity of fluid in the abdomen. The patient died. In the other cases the proposed operation was refused and the diagnosis was confirmed at the post mortem. In one interesting case the patient was a young woman about 24 years of age. Typhoid was fully established. She was reported one morning as having had a drop in temperature, there was found a changed condition of the pulse, there was but little distension of the abdomen and a

perforation was assumed. The leukocyte count, however, was negative and operation was refused. The patient rallied and lived for two weeks. There arose a tremendous distension of the abdomen and absolute refusal on the part of the bowels to move. At the post-mortem, on opening up the peritoneal cavity, there was an escapement of gas and collapse of the abdominal wall. It was found that the bowel was collapsed and the gas accumulation had been in the free cavity. Nothing was found in the ileum of an ulcerative process; in the head of the colon, however, there were a few small defects in coats. The mesentery, particularly of the colon, was found emphysematous. The bowel was not distended with gas. Culture and examination showed the bacillus aerogenes. There was present a partial perforation and the bacillus aerogenes was the cause of the death, which an operation would have averted. He added, that he would like to ask Dr. Keen one question: In his student days many of the patients showed Zenker's muscular degeneration and had rupture of the pectoralis major or biceps of the abdominal muscles. He has not seen in his practice here a single case of rupture of muscle, he wished an explanation of this.

Dr. W. E. FISCHER, replying to a question put by Dr. Carson as to whether the percentage of perforations in typhoid here was not very small, replied that that was the only point on which he felt that had a right to say anything. He thought that Dr. Keen ought to know that the reason why the surgeons who had been called upon to discuss the paper had not had a larger experience in operative work in typhoid perforation was not due to the fact that physicians in St. Louis do not recognize typhoid perforations, but that they do not often occur. In his experience at the City Hospital not more than two perforations a year from typhoid ulcers are recorded, and that too, from a class of patients poorly nourished offering the least resistance to enteric fever. That being true in the City Hospital it would be true even in an exaggerated degree in private practice. During 1903 there were a tremendous number of cases of typhoid, yet Dr. Fischer never saw a single case of perforation. Dr. Keen had expressed the hope that the goal which might be reached in the treatment of typhoid perforation was that at least 50 per cent of the cases might be saved. He, as a physician, knowing nothing of surgery, hoped for a better goal in typhoid, viz., that the day might come soon when, as in diphtheria, typhoid would be controlled, so that the surgeon's services would be re-

quired as seldom as they are now for the relief of laryngeal diphtheria. When the perforation is of thirty-six hours duration before the surgeon proceeds to operate, the percentage of recoveries has been quite large. He asked Dr. Keen what, in his judgment, would have been the result cases if they had not been operated upon.

Dr. ELSWORTH SMITH simply wanted to reiterate what Dr. Fischel had said. He had been in practice since 1887 and, except his stay of three years at the City Hospital, he had never seen a case of perforation although he had seen quite a number of intestinal hemorrhages. He thanked Dr. Keen for the interesting lesson that had been given them, adding that he was going home to study it.

Dr. KEEN, in closing, said that he was not surprised that Dr. Lutz did not understand the typhoid dislocation of the hip. He remembered very well his own surprise at the first case he found reported thinking that it was a far-fetched idea to connect it with the fever and there must be some mistake. But he soon found another, and another, and still others, until he learned that dislocation does occur in typhoid. He was glad to find the discussion bearing especially upon typhoid perforation. That is the point now chiefly under debate.

He had been glad to hear the remarks of Dr. Seelig as to the importance of pain as symptom of perforation. Pain is one of the most prominent symptoms. Disappearance of liver dullness due to tympany was not what he had referred to, but the fact that the perforation, as a rule, would be large enough to permit the escape of gas to such an extent as to cause the disappearance of the liver dullness by free gas in the peritoneal cavity. The method adopted at Mt Sinai Hospital can not be too highly commended, that is, the thorough daily inspection of the patients in order that typhoid perforation or other complication may be discovered. It is the only way in which we shall be successful.

As stated by Dr. Carson, it is better to do an occasional useless operation than to neglect to do necessary operations through hesitancy. Fewer lives will be lost by needless operations than by neglected operations.

Dr. Bartlett referred to the speed in operating as an important factor, Dr. Keen said it was precisely for that reason that he had discouraged a resection of the bowel and urged the formation of an artificial anus.

He had been very much struck during the debate at the small number of operations that had been done in St. Louis and had intended asking why, but Dr. Fischel had answered that question by stating in his remarks that a perforation rarely occurred. Happy St. Louis! where the Folk(s) are of such a character that they don't have perforation and where they catch all their boodlers!

As to the large percentage of recoveries in operations done after the first thirty-six hours, it is probably due to the fact that patients who have able to live that length of time in spite of the perforation possess such vitality and resistance that when operated they can withstand both fever and operation much better than most other patients. If, however, surgeons left all their cases of perforation until after the first thirty-six hours before operating, there would be a holocaust of early deaths without operation.

He stated that he had seen three cases of rupture of the muscles. Whether it has escaped the notice of later observers he did not know, but it is certain that rupture is not reported as frequently as it used to be. He added that he could not express his appreciation of the reception tendered his very imperfect presentation of this matter. If he had done anything to arouse the attention of the profession — of the internists, for they are the men who see these cases and must recognize the perforation, the speaker felt amply repaid for his efforts.

Blastomycosis.

Evans (*J.A.M.A.*, June, 1903) reports a case of blastomycosis of the skin from accidental inoculation in the case of a physician, who while making a necropsy on a case of systematic blastomycosis wounded himself on the finger. At the end of a week the appearance of a pustule demanded incision but it recurred. After two months' illness he recovered.

Sequeira (*British Jour. of Derma.*, April, 1903) gives an interesting report of a case in which the disease was located principally in the region of the lower eyelids. The patient was a healthy man, 37 years of age. The diagnosis was based on the following: The face and scalp alone were affected; the lesions were multiple; new lesions appeared apparently by inoculation; the edges of the tumors were well defined and there was little infiltration, this soon became pustular; in the abscesses and in the pus budding yeast-like organisms were found.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

Disorders of the Spleen.

Taylor (*Lancet*, May 28, 1904) considers that one of the most frequent lesions of the spleen is inflammation or thickening of the capsule—acute or chronic capsulitis. Collecting the cases that came to autopsy at Guy's Hospital during the past ten years he found that nearly 10 per cent of these cases presented evidences of capsulitis. The symptoms are often obscured by other attending conditions.

Of 129 cases of enlarged spleen, nearly half—53 case, were of an infective or microbic origin. A very large proportion of the cases of splenic atrophy were in cases of carcinoma, sarcoma and epithelioma. New growths in the spleen are comparatively rare. In only about 1 per cent of the autopsies was the spleen found to be the site of new growths.

The most frequent causes of a really large spleen are : 1, Enteric fever ; 2, malaria, and 3, malignant endocarditis ; while other frequent causes are pneumonia and tubercle. It must be remembered, however, that some of the largest spleens are produced under conditions not commonly regarded as, or at least not proven to be, infectious—namely, leukemia, cirrhosis, splenic anemia, pseudoleukemia, infantile anemia and allied conditions. In cirrhosis of the liver the spleen is enlarged as a result of passive congestion.

In acute dysentery the spleen is full and soft, while in the chronic variety it is often small.

Tertiary syphilis causes lardaceous disease and gumma of the spleen. Actinomycosis may invade the spleen from the bowel ; seldom does it invade it through the blood current.

Congenital syphilis is probably responsible for many enlargements in infants. Taylor refers to the new clinical entity presented some months ago by Osler. He also mentions Rolleston's plea against considering the affection as a new clinical entity.

Taylor presents 13 cases of enlarged spleen. The conclusions drawn are the following :

1. A consideration of these cases shows the diagnosis of splenic enlargement depend very little upon the condition of the spleen as such, but most entirely upon the associated condition, especially the state of the liver, blood and heart.

2. The size alone which it counts for anything, and this will be shown in splenic anemia and leukocythemia splenica, in both of these the organ reaches larger dimensions which are, however, occasionally equalled in the case of splenomegalic cirrhosis and almost in infective endocarditis.

Cerebrospinal Meningitis.

During the recent epidemic of this disease in New York, Chapin (*Med. News*, June 4, 1904) found that the abrupt onset was usually present. He found that one of the most constant features was tonic spasm or muscle cramp of the back and neck. The temperature and pulse showed the greatest variations without any characteristic features apart from this, some cases running their course with but little increase while others showed a very high temperature. The brain was often seriously crippled and the patient never regained the former mental and physical strength.

In this same issue, Koplik analyzes 77 cases treated at the Mt. Sinai Hospital. He found the clinical picture, onset and general course of the disease as rather typical. In 60 per cent of the cases the patients were under 2 years of age; none were over 14 years.

Koplik believes that neck rigidity is present at some time in all cases. He found opisthotonos present in about 70 per cent of the cases. The Babinski reflex was not so common as found in cases of tubercular meningitis. In the latter disease he considers Babinski's sign as a constant characteristic. He does not consider this sign, however, of much value in children below 2 years of age. The Kernig sign was also found of little value in infants. Kernig's sign was present in all of the cases above 2 years of age. Hyperesthesia and mental irritability were present in all cases.

Koplik is confident that the MacEwan sign—a hollow note over the anterior horn of the lateral ventricle, is not so common in this affection as it is in tubercular meningitis. The tympanitic note obtained by percussion of the inferior frontal or parietal bone, while the

patient sits upright with the head inclined to one side, is not obtained in the majority of cases in the epidemic form.

The temperature changes correspond to those noted by Chapin. Fundal changes were not common in the cases of Koplik. Leukocytosis was present in about 40 per cent of the cases, but Koplik finds that a prognosis as to recovery or a fatal issue could not be made from the leukocyte count alone.

No special value is given to the cerebrospinal fluid in these acute cases since the writer does not believe that it is of great value in determining the form of meningitis. The older the child the better the chance of recovery. Otitis seems to be the most frequent complication. In most of the recovered cases there was little serious injury to the nervous system. The disease is considered self-limited; we relieve the suffering and treat the presenting complications. Lumbar puncture has not proven curative in his cases.

SURGERY.

In Charge of M. G. GORIN, M.D.

Ventro Suspension Followed by Hemorrhage.

Tate (*Cin. Lancet Clinic*) reports a case of ventro suspension of the uterus performed according to Kelly's method, in which hemorrhages occurred twice during a subsequent pregnancy which went to full term and post partum hemorrhage followed delivery at term.

The Resection of the Tuberculous Knee Joint and its Result.

Blouel (*Beit. zur Klin. Chir.*, Band 42, Heft 1, 1904), in conclusions drawn from 400 operations at the Klinik of Von Bruns, which represents the work of 27 years, continues:

Regarding the indications for operative and conservative treatment.—The conservative treatment was employed only in cases which did not show a tendency to rapid progress of the disease; and with the exception of severe cases it was employed for 5 or 6 months, and if definite improvement was not then seen operation was resorted to.

A large number of the operative cases were furnished from those which had been treated conservatively in the klinik; another group of operative cases was furnished by patients who had been treated in an irregu-

lar conservative manner by outsiders, many of them showing marked destructive effects of the disease, such as subluxation, varus and valgus position. A third group was obtained from those, showing either a primary progressive nature or manifesting the same tendency by lighting up of an old apparently healed focus; these cases belong to the boundary line between necessity for resection or amputation. The author always gives resection a trial.

In only one case was the widespread nature of the disease considered cause for amputation. Bad general condition alone was rarely sufficient to demand amputation. A combination of severe joint disease and a bad general condition was the usual indication for amputation. Patients beyond 50 years of age demanding operative interference are considered cases suitable for amputation. Youth was not considered a positive, contra-indication to resection; careful removal of the cartilage and thin layer of bone was undertaken in 186 cases under 15 years of age.

TECHNIC OF OPERATION.—The bloodless method is used, not only to save the blood, but to enable the surgeon to distinguish diseased from healthy structures. Curved incision with convexity above or below depending upon location of the principal diseased area. The operation is preceded with in as extracapsular a manner as possible until just before using the saw; after sawing off the usual layer of bone from the tibia and femur, outlying diseased foci are removed with gouge; raw surfaces are brushed over with a mixture of 1 per cent sublimate solution and iodoform powder. Neither nailing nor wiring of the bones is considered necessary. In 343 cases the disease was in 61.7 per cent primarily synovial, in 38.3 per cent primarily osseous. When the disease began under 15 years of age the percentage of primary synovial disease was higher than when it began after fifteen years.

Early results :

Completely healed.....	343
With fistula.....	29
Unhealed.....	4
Secondary amputation.....	17
Died	7

Total 400

Late results :

Information concerning 385 of these patients was obtained. The time that had elapsed since operation up to the time of the obtaining of information varied from 1 year to 27 years. Of these 385,

45 died completely healed.

5 died with persisting fistula.

6 died unhealed.

12 died after amputation.

304 are still living. Of these 280 are completely healed.

10 healed with fistula.

3 unhealed.

11 amputated.

Thus 87.9 per cent were resected with good result and 12.1 per cent with poor result.

Functional result: Complete bony union is the end desired; if this occurs in patients beyond the period of growth a useful limb can be assured. Before cessation of growth, shortening and other deformities occur in a percentage of cases. Among the deformities were varum, genu valgum, genu varum, recurvatum, genu valgum recurvatum, flexion deformity.

The author was able to demonstrate that shortening which could be compensated for by tilting of the pelvis or using the foot in extension did not interfere in strong individuals with ordinary usefulness of the limb. In a period ranging from 2 to 20 years after operation, 57 patients, or 15.3 per cent, died of tuberculosis. His conclusions are that the extraordinary good results obtained by resection, both in adults and children, warrant us in considering the radical operative treatment as the one of choice in all severe forms of the disease, and also for the lighter forms when a proper conservative treatment has been carried out for a reasonable length of time without distinct improvement.—*St. Paul Med. Jour.*

Enormous Prostatic Calculus.

Lydston (*Annals of Surgery*) reports the removal of a prostatic calculus weighing 720 grains. The specimen was removed from a patient who had suffered from a traumatic stricture of the urethra for four years. The writer explains its formation in this way. Decomposition of the residual urine formed secondary calculi, and the

obstruction to the outflow of urine caused dilatation of the prostatic ducts. One of these calculi becoming lodged in a prostatic duct formed a nucleus around which phosphatic laminæ rapidly occurred until the specimen attained its present size.

DERMATOLOGY.

Lupus.

Hall Edward (*Brit. Med. Jour.*, 1903) refers to the treatment of Butte, who employed a 2 per cent solution of potassium permanganate in the form of compresses in the treatment of lupus. The author tried this method and was surprised to find that the results were very good. After thorough cleansing of the area involved the solution of potassium permanganate is pointed on the whole surface. This is to be repeated every day or every other day.

Fremalieres (*Presse Med.*, 1902) cured a case of lupus very promptly by the application of radium.

The x-ray is extensively and successfully used in the cure of lupus. Reports by Finsen, Wied, Buchanan, Gamlen, etc., very clearly demonstrate its value.

The Prevention of Iodism.

Iodism is the effect of the iodized alkalies suddenly flooding the organism and pouring out through the mucus membranes. Lesser (*Deut. Med. Woch.*; *Med. News*) believes that this afflux of alkali is from a catarrhal condition in the mucus membranes and leads to iodine intoxication. He suggests as a prophylactic measure that the iodine salts be administered in a mucilaginous vehicle in order to render absorption more slow and gradual. In some cases it may be advisable to give it per rectum, where absorption is also slower. Another prophylactic measure is to use the iodine in the form of iodized fats. In cases of pronounced idiosyncrasy iodine may be used at first in small injections in order to accustom the organism gradually and then the internal administration may be gradually substituted.

Preventive Treatment of Syphilis.

Whether it is possible to abort syphilitic infection after the initial lesion has appeared is considered by many to be still an unsolved problem, for it is yet an undecided question whether the chancre is strictly a

local lesion or whether the general infection has already taken place when this appears. Hollander (*Berliner Klin. Woch.*, November 16, 1903) has recently published his observations on a series of 59 cases which he has treated and kept under continual surveillance. He brought about a destruction of the chancre by means of the Pacque-lin cautery, never bringing the glowing point in actual contact with the lesion. He claims that by this means heat rays penetrate much more readily and diffusely into the tissues than when the cautery point itself enters the skin. In the latter case, the instrument merely cuts and the effect is mechanical rather than thermic. Of the 59 cases operated, later syphilitic lesions developed in 12, while some of a more doubtful nature appeared in 3 others. The remaining cases were free from further symptoms for varying periods from two years to six months. Five of these patients married, and no case was the wife infected—some even bore healthy children. It was also found that in a number of instances where swelling of the adjoining lymph nodes was present, the latter subsided.

Another point which the author determined was the difference in the behavior during cauterization of specific and non specific lesions. If, after cauterization of the ulcer, without bringing the glowing point in contact with the sore, the base of the latter be scraped with a sharp spoon, not a bit of tissue can be scraped away if the lesion has been a syphilitic one, and no bleeding result. In the case of the non-specific ulcer, however, the entire base of the ulcer can be readily scraped away and bleeding follows—no actual induration is present. The latter also heals up very quickly, while cicatrization in the chancre may take several weeks. In those cases where further specific lesions developed, the entire course of the disease was found to be much less severe than in ordinary cases, and author believes that destruction of the primary sore has a marked beneficial influence. The proof of a definite healing also seems evident by the fact that in few cases the patients became infected with a hard chancre.—*Medical News*.

OBITUARY.

DR. THEODORE F. PREWITT.

The Medical Department of Washington University and the medical profession of St. Louis had another sad loss in the death of Dr. Theodore F. Prewitt, which occurred Saturday October 22, 1904.

He was born in Howard County, Missouri, March 1, 1832. He received his early education in the local schools. In 1854 he graduated from the St. Louis Medical College. Shortly afterward he became Demonstrator of Anatomy in the Missouri Medical College and Assistant to the Chair of Surgery. Later he was chosen Professor of the Principles and Practice of Surgery in that institution. When the Medical Department of Washington University was formed, he was given the Chair of the Principles of Surgery.

In 1871 St. John's Hospital was organized by the Sisters of Mercy on the corner of Twenty-second and Morgan streets. To Dr. Prewitt and his untiring efforts the institution owes its present position.

As a teacher, Dr. Prewitt took high rank. Although not eloquent as a speaker, he had a gift of speaking simply and of making his subject clear; he was practical to the extreme. The many classes to whom he lectured will never forget such subjects as "Colle's Fracture" and "Obstruction of the Bowels." Students of his were heard to remark, "When you have seen Dr. Prewitt diagnose Colle's fracture and treat it, you know exactly how to handle a case."

About the only hobby he had, outside of his profession, was Shakespeare; he knew his Shakespeare well and could find any given passage, and could quote verse after verse.

In medical circles he was accorded the highest honors that could be bestowed. At different times he was President of the St. Louis Medical Society, of the Missouri State Medical Society, and of the American Surgical Society. He was also a member of the St. Louis Obstetrical Society and the St. Louis Surgical Society, and a Fellow of the College of Physicians and Surgeons in Philadelphia.

He made many valuable contributions to surgical literature. Among his most interesting monographs were the following: "Extra uterine Pregnancy Occurring Twice in the Same Tube;" "Report of Four Cases of Extrauterine Pregnancy;" "Obstruction of the Bowels;" "Spina Bifida—Report of Four Cases of Operation with Recovery;" "Resection of Both Hip joints in One Patient."

In plastic operations he was very successful. That he was a painstaking and careful operator for mammary cancer, many surviving patients on whom he performed that operation, can testify. Long before much stress was laid on a thorough dissection of the axilla, it was his habit to make a careful search for glands in this region. His operation for the removal of tuberculous glands in the neck was brilliant and daring as well as successful.



DR. THEODORE F. PREWITT.

*Born in Howard County, Mo., March 1, 1832; Died in St. Louis,
October 22, 1904.*

(See Obituary, Page 338).

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

Text-Book of Human Physiology.

By Albert P. Brubaker, A.M., M.D., professor of physiology and hygiene in the Jefferson Medical College; professor of physiology in the Pennsylvania College of Dental Surgery, etc. With colored plates and 354 illustrations. P. Blakiston's Son & Co., Philadelphia. 1904.

This is a complete text-book on human physiology for the use of students and practitioners. It represents a complete description of the various functions of the human body as has been demonstrated by ancient and recent investigations.

We can call attention to only a few of the excellencies of this volume:

The chapter on foods is based especially on the practical needs of the clinician. The caloric value of different foods are tabulated and the nutritive value of the common foods is expressed in concise language.

The chapter on digestion among the descriptions of the chemical action of the digestive juices, the innervation, etc., gives a fine description of the movements of the stomach and intestines. It is only in recent years that this peristalsis has been well understood.

The chapter on absorption includes a description of the lymphatic system, the absorption of different food products and the route for the absorbed foods.

There are excellent chapters on animal heat, secretion and excretion. The circulation and respiration receive complete consideration. Especially interesting is the description of the functions of the central nervous system, giving the complete results of modern research.

A valuable feature for the use of students is a comprehensive description of physiologic apparatus.

We are sorry to see no mention of the modern researches on immunity. This subject certainly belongs to physiology, it should not be relegated to the domain of the pathologist.

With this exception the work is complete and will give general satisfaction.

A Text-Book of the Diseases of Women.

By Thomas A. Ashby, M.D., professor of diseases of women in the University of Maryland, etc. Williams & Wilkins Co., Baltimore.

This book is decidedly practical in its character. It aims to make the medical

student familiar with all subjects embraced in a study of the diseases of women and lays great stress on the various methods employed in arriving at a correct diagnosis preliminary to the treatment of gynecological diseases. There is a marked tendency in contemporary books and publication to emphasize the therapeutic side of medicine and to constantly invent new methods or modify older modes of treatment frequently enough without paying proper attention to the sound foundation of a correct diagnosis. Our author, however, deserves credit for encouraging a careful and painstaking examination of the pelvic organs. The pathologic anatomy of the various affections is dealt with in a clear and concise way, and here as well as when considering the operative treatment the author avoided to burden the student with unnecessary details.

As regards therapy, we are pleased to notice that the author attaches due importance to medical treatment. "The indications for surgical work should be very pronounced in every case before the hygienic and medical treatment of the case should be abandoned." These are golden words which the student should later bear in mind when pursuing his practice.

The arrangement of the subject matter is, in places, not above criticism. For instance, curettage of the uterus is considered in the same chapter with general hygienic measures, whereas it clearly belongs in a surgical chapter, and masturbation is, in our opinion not properly placed in the chapter on diseases of the external genitals. These details, however, do not seriously detract from the value of the work. The book includes in 661 pages 233 illustrations, many of which are well done and instructive.

Von Bergmann's Surgery.

A System of Practical Surgery. By Drs. E. von Bergman, of Berlin, P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., professor of surgery in the College of Physicians and Surgeons, Columbia University, New York. To be completed in five Imperial Octavo Volumes, containing over 4000 pages, 1600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6 00; leather, \$7 00; half morocco, \$8 50, net. Lea Brothers & Company, Philadelphia and New York.

Volume IV.—Dealing with the Surgery of the Alimentary Tract, is arranged under the following heads:

- Malformations, injuries and diseases of the esophagus.
- Injuries and diseases of the abdominal wall.
- Injuries and diseases of the peritoneum—laparotomy.
- Malformations, injuries and diseases of the stomach and intestines.
- Hernia.
- Injuries and diseases of the liver and biliary passages.
- Injuries and diseases of the spleen.
- Injuries and diseases of the pancreas.

Under section three, beginning with a consideration of the anatomic and physiologic peculiarities of the perineum and topographical anatomy of the abdomen, very thorough and detailed treatment of the subject of laparotomy is given, with special attention to the numerous complications and sequelæ which may occur in this operation. The increasing importance of surgical treatment of diseases of the

stomach renders the section devoted to this section of particular interest, giving in detail as it does the technic of the various operations, such as gastroplication, gastropexy, gastrolisis, gastrorrhaphy, gastrotomy, gastrostomy and gastroenterostomy.

In the notable articles on cholelithiasis, hernia, appendicitis and intestinal obstruction much valuable information both as regards technic and the latest clinical data are furnished.

The volume is replete with illustrations which greatly facilitate a clear and ready comprehension of the text, and well sustains the high standard of excellence shown in the preceding volumes.

A Text-Book on Alkaloidal Therapeutics.

Being a condensed résumé of all available literature on the subject of the active principles added to the personal experience of the authors. By W. F. Waugh, M.D. and W. C. Abbott, M.D., with the collaboration of E. M. Epstein, M.D. Cloth, pages 405. The Clinic Publishing Co., Chicago. 1904.

This neat volume is simply all that the authors claim for it—nothing more. They have collected all available literature upon the subject and added their own experiences. The principal alkaloids are carefully and quite fully dealt with. Aconitin, atropin and digitalin have been accorded considerable attention. Pilocarpin and hyoscin do not receive the proper consideration. Many agents receive but a passing tribute, while many more are not mentioned.

All-in-all, however, the volume is worthy of praise. It is a handy reference book and will be welcomed by many practitioners. It is an ardent exponent of the alkaloidal idea. Blank pages are introduced for the recording of clinical notes.

Diseases of Metabolism and Nutrition.

Concerning the Effects of Saline Waters on Metabolism. By Carl von Noorden, M.D. Price 75 cents. E. B. Treat & Co., New York. 1904.

This is the fifth monograph of the series. The author shows that saline waters are helpful in either hypoacidity or hyperacidity of the gastric juice, that the time-honored dictum of restricting fats during a course of mineral water is a fallacy, that the acceleration of the proteid metabolism which is so much dwelt upon in the literature of watering places does not occur when saline mineral waters are used.

The excretion of uric acid is slightly increased when dilute saline mineral waters are taken, and that there is no urgent reason for forbidding, during saline treatment, the use of raw fruits, vinegar, salads, etc., in specified cases, are some of his conclusions.

Lea's Series of Medical Epitomes.

Series edited by V. C. Pedersen, A.M., M.D. Lea Brother & Company, Philadelphia and New York.

Epitome of Nervous and Mental Diseases.

A Manual for Students and Physician. By Joseph Darwin Nagel, M.D., consulting physician to the French Hospital, New York. In one 12mo volume of 276 pages, with 46 illustrations. Cloth, \$1.00, net. 1904.

This small volume seems one of the best of its class—a manual and a query

compend combined. It comprises 276 pages und though the necessary brevity limits descriptions to the purest words, covers the subject treated in a fairly complete manner. It is not intended, we assume, to in any way displace the usual text-books but to serve largely as a dictionary, the questions appended to each chapter encouraging the student to test his memory in any given instance.

The field of nervous and mental disease has grown so large that it requires a library of some size to amply cover it. But this volume may serve usefully as working index.

Epitome of Surgery.

A Manual for Student and Practitioners, By D'Arcy Magee, A.M., M.D., demonstrator of surgery and lecturer on minor surgery; and Wallace Johnson, Ph.D., M.D., demonstrator of pathology and bacteriology in Georgetown University Medical School, Washington, D. C. In one 12mo volume of 295 pages, with 129 engravings. Cloth, \$1.00, net. 1904.

This volume on Surgery of the Medical Epitome Series fulfills well the essentials of a good compend on the subject. The text is continuous, not being interlarded with questions as is usually the case in such manuals, but the questions are placed at the end of each chapter, which is a distinct advantage to the reader. The book is well illustrated and contains a useful chapter on the x-ray in surgery. This epitome should fully answer the requirements of one who is compelled to review the field of surgery with a fair degree of thoroughness in a short space of time.

Radiotherapy, Phototherapy and High Frequency Currents.

The Medical and Surgical Applications of Radiology in Diagnosis and Treatment. By Charles Warrenne Allen, M.D., professor of dermatology in the New York Post-Graduate Medical School. Octavo, 618 pages, 131 engravings and 21 plates. Cloth, \$4.50, net. Lea Brothers & Co., Philadelphia and New York. 1904.

This work is divided into seven parts. About 400 of the 618 pages are devoted to the x-ray. Especially to be recommended is the extensive attention given to x-ray burns and the deleterious effects of x-rays. Too little has heretofore been said on this subject but the more fully these aspects of the subject are studied the better it will be for the community and the operator. Moreover, as suggested by the author, the study of the deleterious effects of the rays may possibly throw some light on the method of the rays in curing diseased conditions. A chapter on exact measures of dosage is given and the various forms of radiometers are described and their respective values given from the author's standpoint.

There is a section on light and one on actinotherapy in which the various forms of apparatus and their respective values are set forth.

Radioactivity of various elements is reviewed, together with the various rays which have been found to emanate from various substances, and to some extent have been believed to be of some value in certain diseased conditions.

High frequency currents receive a full consideration, and altogether the author, with his associates, Drs. Milton Franklin and Samuel Stern, are to be congratulated on producing a book so worthy of the busy practitioner's consideration.

Electrodiagnosis and Electrotherapeutics.

By Dr. Toby Cohn, translated from the 2d German edition by Frances A. Scratchley, M.D. Funk & Wagnall Co., New York and London.

The work is divided into three parts. 1.—A description of apparatus. 2.—Electrodiagnosis. 3.—Electrotherapeutics.

The part devoted to description of apparatus would be the better for a few corrections and better proofreading. In some of the cuts letters descriptive and locative have been transposed. Not much stress, however, has been laid on this part of the work.

The value of the work is more manifest in electrodiagnosis and electrotherapeutics. The cuts are well prepared and consist of the illustrations showing muscle location and relation, and over it a piece of tissue is pasted at one end on which the motor points are marked.

A chapter on Franklinization or static electricity and one on Teslaization or high frequency is added. The value of these chapters is practically nothing, as neither static electricity or high frequency has been studied in Germany, but in the field which the author professes to cover—galvanism and faradism, the book is well worth not only perusal but study.

The Doctor's Recreation Series.

Charles Wells Moulton, general editor. A. J. Saalfeld Publishing Co., Akron, Ohio, Chicago and New York. 1904.

Volume II.—The Doctor's Red Lamp, a book of short stories concerning the doctor's daily life.

The humorous vein commenced in the first volume is continued. The masterpieces of English humor and pathos relating to the physician's life have been selected and placed in this handsomely bound volume.

Here are a few of the titles of the short stories: The Surgeon's Miracle, by Joseph Kirkland; The Doctor of Hoyland, by Conan Doyle; The Doctor of the Old School, by Ian Maclaren; Dr. Barrere, by Margaret Oliphant; On the Indian Frontier, by Henry Seton Merriman, etc.

Several beautiful illustrations adorn the volume. It is a wonderful collection of stories and most physicians will agree that the editor has shown good taste in his elegant selections. It is another book to enrich the doctor's busy hours with a few hours of delight.

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The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes, Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 25 cents. The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

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Announcement.

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ST. LOUIS

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ORIGINAL CONTRIBUTIONS.

The Baby Incubators on the "Pike."

A Study of the Care of Premature Infants in Incubator
Hospitals Erected for Show Purposes.

By JOHN ZAHORSKY, M.D.,

ST. LOUIS, MO.

I.

ALTHOUGH I have taken some pains to search medical literature, a comprehensive account of results obtained at the so-called show incubators was not found. Neither can I find to whom we owe this new method of entertaining and instructing the people. The *London Lancet* of May 29, 1897, editorially discusses the care of infants in incubators and gives an account of the first public incubators in England. After narrating a brief history of the baby incubators and discussing their success in foreign countries, it is stated that in England the question of incubators is of particular interest, for though the general death-rate of infants had decreased considerably, the death-rate due to premature births had, on the contrary, greatly increased.

Some authorities had placed this increase at 40 per cent.

The London tables of mortality show that whereas the deaths registered as due to premature births amounted to 1930 in 1886, this figure rose to 2534 in 1896. "Under these circumstances any successful attempt to improve the construction of incubators and to render this life-saving apparatus available to the general public must be welcome." It is furthermore stated that they "were informed" that this had been achieved at Earl's Court, but does not give any source of the information. In these editorial notes we are informed that Messrs Samuel Schenkein and Martin Coney had opened an exhibition of baby incubators during the Victorian Era Exposition at Earl's Court.

"The main feature of this new incubator is the fact that it requires no constant and skilled care. [!!] It works automatically; both ventilation and heat are maintained without any fluctuation whatever, not only for an hour but for days." The writer evidently obtained his information from the dealers in incubators. He later admitted that the variations were no more than 2°C. The incubators used were the Altmann incubators. From the description I judge that it was a modification of the Lion incubator.

The ventilation was accomplished by a pipe conducted through the wall or window which delivered the air to a box fastened to the side of the incubators, where it was moistened and washed by passing through a layer of cotton over a saucer containing water or an *antiseptic solution*. We are really surprised to hear that the air passed over an antiseptic solution. This must also be some information obtained from the dealers. Medical science is not aware of any antiseptic which destroys bacteria in the air and at the same time is harmless to breathe, especially for young infants.

The description of the air and heating apparatus corresponds to the incubators used in St. Louis, except that the thermostat was different. The thermostat was in the shape of a W made of two metals, one of which expanded and contracted while the other did not. This unequal expansion turned off the gas or turned down the lamp. It was said to have been very delicate, the slightest change affecting it, etc.

Most remarkable is the assertion that as the incubators were so perfectly constructed *skilled attendance was not required*, as if the keeping a box up to a constant temperature is the whole difficulty in the care of premature infants.

A further description of the institute is found in the *London Lancet* of July 17, 1897. After announcing that the members of the press were invited to inspect the incubators at Earl's Court, it is stated that the incubators are in charge of a trained nurse from Paris who is assisted by the wet nurses who furnish food for the infants.

The institute comprises three compartments: On one side were sleeping accommodations for the two wet nurses and the trained nurse; on the opposite side was a nursery where the babies were fed, washed, etc. The public was admitted to the central room where the incubators stood. Messrs Coney and Schenkein, and two physicians attend. We can not but help smiling on reading that the babies were fed every two hours in day time and at night the watchman awakened the nurses every three hours that they might feed the infants. They were generally fed from the breast.

I have given the description of this public incubator institute somewhat at length since it is the only one that can be found. That this system had great defects in construction and was defective in its nursing capacity is self evident. How much improvement these gentlemen accomplished at other institutions of similar character (Berlin, Buffalo and New York) I can not state. That the editor of the *Lancet* could grow enthusiastic over it only emphasizes the general ignorance of such institutions at that time.

The financial success of the incubator shown at Earl's Court seems to have invited many other showmen to open such an exhibition, and we find Messrs Coney and Schenkein in an open letter (*London Lancet*, September 18, 1897) deeming it their "duty to warn members of the medical profession, also nurses, parents and public institutions not to entrust their children to any applicant whatsoever without first taking the precaution to assure themselves that they will not be made the victims of showmen, as well of inexperienced or irresponsible persons who seek to trade upon the established reputation of an invention that has been recognized by both the medical and lay press." Is this not the voice of pure commercialism?

Indeed, in the following year (*London Lancet*, Feb. 5, 1898) the editor regrets that the success at Earl's Court has attracted the cupidity of public showmen. The methods used at the London World's Fair are attacked especially because the air is not obtained from the outside. The incubators at Barnum & Bai-

ley's Circus seem to have been under better management, but the *Lancet* indignantly exclaims: "What connection is there between the serious matter of saving human life, and the bearded woman, the dog-faced man, the elephants, the performing horses and pigs, and the clowns and acrobats, that constitute the chief attraction of Olympia!"

Some notion of this incubator is obtained from an editorial in *Pediatrics*, April 1, 1898. It seems, however, that this periodical obtained most of its data from an English newspaper. I quote—"one of the most popular of the 'side-shows' at Olympia, now the headquarters of Bailey's Greatest Show on Earth is the baby incubator department. These incubators are of English manufacture throughout, and are, moreover, far more elaborate contrivances than their German and French prototypes. All the infants treated by this method are exceedingly delicate, one of them weighing only 20 ounces, while another is barely 9 inches long, yet it is asserted that between 80 and 90 per cent are saved alive." Then follows a description of the incubator; the air is received from the outside through a metal pipe; the baby lies in a hermetically sealed glass chamber; the air is filtered by passing through cotton which has been impregnated with a powerful germicide. Infants are fed every two hours in the day time and three times at night. The greatest care is taken to prevent their inhalation of the outside air during feeding. Sterilized milk, well diluted, is the food. There is an automatic regulator of the heat, and when anything is wrong an electric bell rings.

We read that in all these incubators the results are very good. But such reports are utterly worthless, since no exact statistics have been published. In order to ascertain whether the results were very good we should have to know the number, age and weight of the babies admitted and the exact death rate. This has never been furnished by physicians in charge of these incubators. Why?

The accusation made against some of them is that babies weighing less than a certain number of ounces and under seven and a half months' gestation are not received, but I have no way of verifying this statement.

The feeling of the medical profession is against the show incubators, of this there can be no doubt. On the one hand there is a prejudice that showmen can not have the proper sentiment toward these little ones and may sacrifice proper re-

quirements of care for show purposes ; on the other hand, we feel it degrading to human sentiment to make an exhibition of human misfortunes, especially in the shape of tiny infants. It is perfectly rational, then, to inquire into the advantages that an incubator institute has to offer. In the first place, such an institution, when connected with a large Fair or Exposition is financially able to give these young infants attention which could not be procured otherwise. When it is recalled that each infant at the St. Louis Fair cost the company about \$15 a day, the magnitude of the task is apparent, and if this expenditure is life-saving it would be a great boon to the poorer class. Money is necessary to save the life of premature infants. It is questionable whether any hospital or asylum could undertake this work unless the State would give a liberal support.

In the second place, such an institution has a great educational value and, no doubt, these exhibitions have contributed largely to the general feeling that a effort should be made to save premature infants and not allow them to die as a matter of course.

In the third place, such an institution serves the purpose of a hospital where premature infants may be scientifically studied, and in this way advances our knowledge and improves our methods of rearing them. Unfortunately, as far as I am aware, the material at these exhibitions in the past have not been utilized ; or, at least, the scientific world has not received any increment to its knowledge from this source. It is for this reason especially that I take pleasure in giving the full particulars of the incubators at the Louisiana Purchase Exposition, and record the details of our efforts to save life during the three months in which I had charge.

But there is one objection to these exhibitions which must be carefully considered, and this objection holds good for all infant hospitals and asylums—namely, the death-rate of infants in such institutions is probably much higher than in private families. The danger of “hospitalism” can not be denied, but more of this later.

After all, as long as the people are interested in such exhibitions, and will pay a good admission fee, these institutions will flourish and it behooves the medical profession to see that safeguards are thrown around them, and rules of conduct must be accurately formulated. On the construction and management more will be told later.

The Incubators on the Pike.

The Imperial Concession Company, a company formed principally of St. Louis business men, with Mr. E. M. Bayliss manager, opened the incubators about June 1, 1904. While the purpose of this company was simply to make money, the character of the men governing the institution, precluded the entertainment of the notion that the infants would be neglected in any way. These business men did not claim to know anything about the care of premature infants (neither do the



FIG. 1.—The Baby Incubator Building.

capitalists who build our hospitals possess any special knowledge concerning the care of the sick) but they were willing to do anything that science has taught was necessary. Miss Kelly, a trained nurse, who had had considerable experience with premature and other babies was put in charge, a physician was procured who had gone East especially to study the care of these infants, and only trained nurses were employed to take care of the babies.

Everything went very well until the hot weather, when, through some error, a very virulent pathogenic micro-organism was introduced and the catastrophe of an epidemic summer diarrhea started among the babies. The losses of very young

babies was increased by the death of several "graduates," and the mortality was altogether higher than was desired. On September 1st the death-rate had been about 50 per cent—the death-rate of infantile hospitalism.

The attending physician resigned and during the month of August others were employed.

Meanwhile, certain "specialists" in incubator exhibitions, probably chagrined by the fact that they had not obtained the concession, although they had experience in many other expositions, began to assail the management in every conceivable way. Some sensational newspapers tried to make a scandal out of the baby incubators on the Pike.

But the management and the officials of the Exposition took up the subject; a committee of the best local physicians was appointed to investigate the exhibition and a few changes in the building were ordered, one of which was that a glass partition should separate the incubators from the public. But these alterations, while helpful, had little to do with improving the conditions. The catastrophe was almost over. The management spared no expense in trying to remedy every defect. Vast sums were spent in some things which really were impracticable—such as a gas pump to increase the gas pressure, electric heaters, etc. The gas pump failed to operate at times and the electric heating of water was too slow.

How to avoid these catastrophes, as Finkelstein has aptly termed them, has been clearly laid down, but occasionally, in spite of care, it may occur. What seemed especially hard was the bitter attacks of these "specialists" in incubator institutes, although the report of Major Raymond, U. S. A., showed that the death-rate in incubator babies was but 50 per cent. These figures are no higher than those of Adriance—60 per cent, and about the same as those of Voorhees', 50 per cent; consequently, these scandalous vituperations were uncalled for.

Still this rivalry among different individuals, who wish to conduct incubators for show purposes, can have only a healthful influence, in that rivals will watch each other and attempt to find fault with the management. This will stimulate all to do their best.

I took charge of the medical management on September 1st, and was ably assisted, first by Dr. O'Neal and later by Dr. F. N. Gordon, who were the resident physicians. I made two, but more often three, visits to the incubators daily. This study

then includes our experience from September 1 to November 30, 1904. I feel it would be unjust to make a complete report on the previous experiences of the other physicians as I have incomplete data, but I shall take the liberty to refer to some phases of it, as shown by the clinical records in my possession.



FIG. 2.—The Interior Court.

II.

THE BUILDING.

The incubators and nursery were in a brick fireproof building, while the dormitories for nurses and other attendants were in a separate part of the building which was constructed, as most other exposition buildings, of a wooden frame work and staff. (Fig. 1).

ROOM FOR THE INCUBATORS.

The incubators, twelve in number, stood in narrow hall about three feet apart and separated from a large room, in which the public came and went, by a glass partition. This partition was built about the middle of the season on recom-

mentation of the committee appointed by the Board of Health; previous to this the incubators were separated from the public only by an iron railing. Not only were the nurses constantly annoyed by questions from the interested visitors, but the air became surcharged at times with carbon dioxid and obnoxious effluvia from thousands of sight-seers. Hence, I deem it of the utmost importance that the room in which the incubators stand be entirely separated from the public; for the



FIG. 3.—The Incubators. Photograph taken before the Glass Partition was Erected.

air of a room, no matter how thoroughly ventilated, in which many people congregate is unfit for young infants. Every time the door of an incubator is opened this foul air enters the baby's resting place. There is no easier way to induce the symptom complex of hospitalism. (Fig. 3).

Therefore the air in the visiting room had no connection whatever with the incubator ward, and the air supply, outlet and inlet, was entirely separate. For, to place the incubators in the public room subjects the little ones to grave dangers of

intoxication and infection every time the door of the incubator is opened.

The incubator room received the air supply by a large opening in the ceiling at one end, while at the opposite end two large electric exhaust fans continually emptied the atmospheric contents. While the narrow room was, theoretically, too small, practically with this forced ventilation the air remained perfectly pure. During the cold weather the room was heated by a wood-burning stove at one end of the room, almost immediately beneath the opening for the entrance of air. An effort was made to keep the temperature of the air about 75°F., or a little higher. At this end also was a door which opened into the nursery, a corner of which was walled off for a diet kitchen and dressing room. This door remained closed most of the time so that the air from the nursery could not enter the incubator room.

THE DIET KITCHEN.

The diet kitchen and dressing room was made from a corner of the nursery, walled off by a thin partition from the nursery and ventilated by an opening in the ceiling and an outlet shaft extending from a few inches from the floor upward and constantly emptied by an electric exhaust fan. The sterilization of the bottles, heating of the thermophores, warming of the milk, etc., was done on a gas stove. The objectionable odor of gas was obviated by having a large hood with a flue running to the top of the building. This removed the hot air and combustion products. A trial was made with electric heaters but were found impracticable, since the heating of large quantities of water was too slow. The heat from the gas stove kept the diet kitchen at a temperature of 75 to 85°F. During the cold weather the temperature was kept up by a wood-burning stove which stood near the door of the diet kitchen.

For the purpose of dressing the babies, shelves were attached to each side of the kitchen. Pads of cotton covered with sterilized gauze were laid upon them. Underneath these pads were electrotherms which could be heated if for any reason a premature infant with feeble heating power had to remain in the dressing room for a short time.

Altogether the objectionable features of having the diet kitchen and dressing room together were minimized, but in all such institutions separate rooms should be provided.

THE NURSERY.

The nursery also was separated from the public by large glass windows. It was ventilated by doors and numerous windows, and heated, during part of October and November, by two wood-burning stoves. The floor was covered with linoleum which was thoroughly cleaned every day.



FIG. 4.—Showing Cylinder where Heat is Applied.

THE INCUBATORS.

The incubators used were manufactured by the Kny-Scheerer Company, of New York. It is a modification of the Lion incubator. The principal improvement consists in the use of a thermophore placed in a metal drawer in the lower part of the incubator; an improvement probably adopted from the suggestion of L. Furst and others (*Beliner Klin. Woch.*, November 20, 1899). This thermophore is rectangular metal box which contains crystals of some salt (sodium acetate?) which when placed in boiling water liquify. The process of recrystallization going on slowly, the metal box radiates heat for several hours. The principal heating of the incubator is ac-

complished by means of a coil of metal tubing which contains water. The water pipe extends to the outside of the incubator where it enters a cylinder lined with fire-clay. Within this it a gas flame which heats the water. For most purposes an ordinary Bunsen burner is sufficient. In a few incubators a larger gas heater was employed. (Fig. 4).

The products of combustion from these heaters were carried off by means of a tin pipe running from the top of the heating cylinder through the ceiling of the incubator room. The incubator is made entirely of nickel plated iron, glass and tin. The two sides have large glass windows and the double doors in front are made entirely of glass except a narrow framework. The size of the incubator chamber is—length, 56 cm.; breadth, 46 cm.; height, 46 cm. It might with benefit be made a little wider, for a larger chamber would be preferable on account of the greater ease in attending to the baby, and the heating capacity would be more stable. Then, again, the flow of the ventilation would need be less swift.

About 10 cm. above the water coil is a platform made of plated steel wire on which the infant lies, but separated from it by a pad of cotton covered with rubber cloth over which fresh sterilized gauze was placed daily.

The air enters the incubator below the water coil and strikes a flange within the coil which spreads the air current. It rises on all sides of the infant and where the pad is not impervious may pass through the frame. On the top of the chamber is a circular opening for the egress of air. This has a pipe attached in the upper end of which is a small metal fan (anemometer) which by the rapidity of rotation indicates the velocity of outflow. A thermometer is attached on a level of the infant to the side of the incubator walls. A hygrometer is also one of the valuable instruments in each incubator.

THE AIR SUPPLY.

The air supply was received through a large tin pipe (diameter, 24 cm.) which extended from the roof of the building through the ceiling and emptied into a similar pipe which ran horizontally the whole length of the incubator room. From this horizontal pipe smaller tubes (diameter, 7 cm.) carried the air to the incubators. The air was forced through these pipes by an electric fan at the opening of the large pipe on the roof. The opening of the pipe was made vertical to

preclude water entering the pipe and was covered by a double layer of gauze in order to keep out any large particles which might enter. Immediately below the fan an electric resistance coil heated the air during the cold weather.



FIG. 5.— Showing Metal Box attached to the side of the Incubator into which the Air enters.

The air was again filtered immediately on entering the incubator in a little metal box attached to the side of the incubator. In spreading out under the bedding it passed slowly over the hot water coil and was heated before rising to pass around the baby. The moisture required was obtained principally from an open vessel placed in the same drawer with the thermophore. An additional moisture was received when necessary from a beaker glass in the small side box. (Fig. 5). An opening which could be closed is found immediately below the thermophore.

ADDITIONAL HEATERS.

As mentioned, additional heaters were provided in the shape of electrotherms. These were pads covered with rub-

ber cloth in the center of which an electric resistance coil gave heat. During the time of dressing very young infants they were laid upon these electrotherms and thus received an additional amount of heat. Sick infants who have to be removed from the incubator can be placed on the electric heaters.

(To be Continued.)

The Use and Abuse of the Syringe in Aural Practice.

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TO MANY general physicians, to a large number of the laity, and even to some who are making a special work of otology, the syringe seems to be a veritable panacea for all the ills to which the human ear is heir. Notwithstanding the fact that the use of the syringe is not so general as formerly, there seems to be even at the present time much greater danger of overestimating than of underestimating the value of the syringe in ear work. This being the case I feel that the above subject merits the most careful consideration. I wish, however, in the very beginning of this discussion to state that I fully recognize the value of the syringe when properly used in appropriate cases; but I most emphatically and insistently condemn its promiscuous, improper and too frequent use in troubles of the ear. I am advised that Dr. Horatio N. Spencer was among the first to treat suppurative otitis media by methods other than those in which the syringe is used; and I am further advised that his experience of thirty odd years has not only strengthened and confirmed his belief in the efficacy of such methods in these cases, but has led him to a much more limited use of the syringe in all ear cases. Further on I shall quote freely from articles on this subject written by Dr. Spencer some twenty odd years ago and published in *The American Journal of Otology*.

It is not purposed to limit this article to a particular class of ear diseases, but to cover, even though in a superficial

way, all kinds of aural disturbances. We shall discuss the use and the abuse of the syringe in diseases of the external, of the middle and of the internal ear, and in such discussion consider at least the principal disturbances wherein the syringe is used and whether it is the part of wisdom that it be so used, and whether too freely used.

Before taking up the disturbances as above indicated a few general remarks on examination and technic are necessary.

I wish first to mention two classes of physicians who do ear work without seeming to know what the tympanic membrane looks like or without being able to see the membrane. The great harm done by these men and the increased work thereby given to the intelligent ear specialist gives them an important place in a discussion of this kind. The two classes referred to are quacks on the one hand, and on the other, physicians who do good work in other lines, yet, without sufficient experience and practice, attempt ear work. In my clinic work and to some extent in my private office I have treated many patients who have been under the care of advertising "specialists" and have invariably questioned these closely as to the examination and the treatment that they have received. The answers to these questions have differed but little,—the membrane had not been examined and the treatment in almost every variety of cases consisted in whole or in part of syringing the ear with hot water. Their use of the syringe is indeed promiscuous and indiscriminate.

My experience with the second class of men who do ear work without looking at the drum head or without being able to see it is more intimate for here I have come in contact with the men themselves and not with their patients merely. In a dispensary in New York City where I had gone to do ear work one of the physicians in charge called me to look at "a retracted and thickened membrane." It required but a glance to ascertain that the ear was full of pus and after mopping this out a defect of the membrane was found. In my own clinic I have found several of these cases and shall cite a recent one. A physician asked permission to work in the ear clinic saying that he was especially interested in that work and had just been treating some cases of suppurative otitis. He was first directed to examine cases and report his diagnosis of these, with the result that in each of the six or seven cases examined the diagnosis was wrong, showing absolute ignorance of the

normal drum membrane. This man had been treating all the ear troubles that came his way and his sole remedy for all pathological disturbances was the syringe. As stated in the beginning the syringe is thought by some to be a panacea for all ear troubles, and I believe the statement, so far as the two classes mentioned are concerned, is not exaggerated. However, it would hardly be just in discussing a therapeutic agent to lay too much stress on its palpable abuses. But an article on this subject that ignored such abuses would be incomplete indeed, and it is for this reason that reference has been made to those who, seemingly on general principles, syringe the ear without troubling their heads with the diagnosis or the etiology of the case.

Let us now consider those cases where a definite diagnosis has been made and discuss the indications or contraindications for the use of the syringe.

THE EXTERNAL EAR.

Diseases of the auricle we may dismiss as hardly coming within the purview of this discussion; but of the affections of the external auditory meatus we shall find several that have a very important bearing on our subject and are well worthy our thoughtful consideration. In the removal of foreign bodies and impacted cerumen from the canal of the ear the syringe is more generally used than any other instrument,—far too frequently, I believe, and we shall do well to consider at some length the advisability of its use in such cases.

The subject of foreign bodies is in itself a large one owing to the great variety of these that find lodgment in the external meatus. Of first importance in such cases is the matter of diagnosis and it is essential that a careful examination under a good light be made. A physician with even a limited experience in ear work soon learns that the word of the patient is not to be relied on. Too frequently patients give a history indicating the presence of a foreign body in the external meatus, but an examination discloses a very different trouble. If in such case where no foreign body is present syringing is resorted to, it is obvious that the patient is put to unnecessary inconvenience,—in some cases resulting in syncope or other disagreeable manifestations. Indeed, rather serious complications might arise from the failure to bring forth the looked-for foreign body. Repeated attempts to remove

such obstruction might lead to such increased force as to rupture the membrana tympani. But should the membrana tympani not be ruptured the parts would be mascerated and softened and left in an unnatural condition which might readily lead to an external otitis; for, if a physician can not make a diagnosis of the presence of a foreign body he can not properly dry the canal after using the syringe. But let us take a case in which a definite diagnosis discloses the presence of a foreign body. Are we in such case to turn immediately to the syringe? By no means. The number of cases in which resort is made to the syringe by a man skilled in the technic of ear work is indeed small. Its use is positively contraindicated where the foreign body fills the whole lumen, as in such case the stream of water but tends to drive the body inward. Commenting on such cases Dr. A. H. Buck, of New York, in "First Principles of Otology," says: "If the foreign body is of sufficient size to fill the canal or to press against its sides at two or more points, the use of the of syringe seems to me thoroughly irrational and impractical. What is required in such a case is force from behind and not one that spends itself on the outer surface of the body, and thus tends to drive it deeper down into the canal." In bodies that are apt to expand, such as peas and beans, the syringe may be not only ineffectual but also render subsequent removal more difficult and formidable. In those cases where foreign bodies with sharp edges are embedded in the walls of the canal, for example, pieces of glass, china or metal objects, the use of the syringe might cause laceration and would seldom prove efficacious.

If the surgeon has a steady hand and the proper technic almost all foreign bodies can be removed by means of the instrument without resorting to the syringe. If, however, the physician has not the necessary skill nor confidence in his ability in this direction the syringe is safer, notwithstanding the fact that its use in many cases is deplorable. Even in works in which the syringe is advocated for the removal of most foreign bodies I have seen it stated that a perforation in the tympanic membrane is a contraindication for the use of the syringe. In a vast number of cases in which a foreign body is present it is impossible to see the membrane because hidden by the body; and a patient's knowledge of the existence of a perforation in his ear so uncertain, together with his

inability to give such a history as would lead one to so much as suspect the presence of an old perforation, that it seems to me the promiscuous use of the syringe for the removal of foreign bodies should no longer be indulged. The cases in which the syringe is preferable to other instruments are few; but where a loose body is in the fundus I think the syringe may often be used to advantage. Great care, however, should be taken to thoroughly and carefully dry the meatus after the removal has been accomplished. I can speak from the point of view of a patient in the removal of at least one kind of foreign body. On more than one occasion while having my hair trimmed, short hairs have fallen into the ear, and these touching the drumhead caused no small annoyance. When first troubled in this way I consulted my father who, observing the hairs, removed them by means of small pledgets of cotton on an applicator and a delicate pair of forceps. The operation took but a few seconds and the relief was immediate. In this connection I wish to add that often too much cotton is used on the applicator thus preventing the surgeon from following his work carefully. Frequently, also, the forceps are too large and clumsy. This has necessitated my having more delicate ones specially made. When troubled in the above manner the second time I had no difficulty in making the diagnosis, neither did the aurist who examined my ear; but on this occasion the removal was accomplished by use of the syringe. In each of the above methods the work done was the very best of its kind; but in the second, even though the syringing was done in the most careful manner and the ear thoroughly and properly dried, it was at least an hour before my ear felt perfectly comfortable. Yet, I am free to say that unless I had perfect confidence in the surgeon and he perfect confidence in himself, I should, in a case of that kind, prefer a syringe to other instruments.

What has been said of the extraction of foreign bodies is true of the removal of impacted cerumen. If a physician has the experience and the skill, cerumen can be removed in 90 per cent of all cases by the use of a blunt ring curette and small pledgets of cotton on an applicator with practically no pain or inconvenience to the patient. Of course, in this case as in all others the examination is necessary. The appearance alone, however, is not always sufficient for a definite diagnosis of impacted cerumen, for several conditions in the external

meatus might simulate this appearance. A small quantity of cerumen the size of a garden pea might lie close to the entrance and fill the lumen, giving the appearance of a meatus filled entirely with cerumen. This, of course, would not affect the hearing as impacted cerumen would. In a case where the hearing is already affected the hearing tests might be of very little assistance. However, the judicious use of the blunt ring curette would enable us to discover the true situation at once and to remove the small mass with ease. It sometimes happens that a foreign body is in the ear without the patient being aware of the fact, and this becoming covered with cerumen might deceive us. This is rare, of course, but I have come in contact with such cases. Here, also, by the use of the curette one is not long left in doubt. The products of an eczema might be mistaken for impacted cerumen, and here the use of water is a rule unquestionably condemned. The condition known as keratosis obdurans is another that might simulate the appearance of inspissated cerumen, and in these cases the syringe is invariably inadequate. Where the syringe is used in these cases, either because it is unquestionably indicated or in lieu of a better method, because of inexperience or lack of self-confidence, its proper use is a matter of great importance. This is true of the use of the syringe in any ear affection and later on it will be necessary in a general way to refer to its proper use; but in this connection it will be well to mention one or two points relative to its proper use. The stream should be directed between the object to be removed and the upper anterior wall, care being taken not to use too much force. After the removal has been accomplished the meatus should be dried thoroughly and a small pledget of cotton placed in the ear to remain until the patient shall have returned to his place of abode.

In diffuse inflammations of the external auditory canal there is little occasion for the use of the syringe. All applications can be made by mopping, and if necessary to remove pus or scales, this can be done by means of cotton on an applicator and the forceps and curette. Very few cases will arise where the use of the syringe is unavoidable. The same may be said of circumscribed external otitis. Where the canal is swollen the water used in syringing reaches the fundus and there remains keeping the parts moist and retarding the healing process,—it being impossible to dry thoroughly an ear in

this condition. Without using the syringe, I have never had any trouble in thoroughly cleansing and preparing these cases for incision; and where I have wished to apply heat I have ever found dry heat more efficacious and less harmful than the moist.

In parasitic inflammations of the external ear, for instance, the various forms of aspergillus, the best results can be obtained by carefully mopping the ear and instilling a solution of bichlorid of mercury in alcohol. This is used warm and allowed to remain a few minutes. After it has been removed the ear is dried out as thoroughly as possible, and any of the alcholic solution that might remain in the ear evaporates readily. This method is preferable to any in which the syringe is used.

In eczema the use of water is almost universally condemned, yet, even in these cases some can not resist the temptation of syringing the the ear with aqueous solutions. I have before me a German pamphlet which advises the syringing of the meatus where epidermis scales or secretions are present. This is quite unnecessary and far inferior to the method given by Dr. H. N. Spencer in a section on "Eczema of the Ear" in Dr. Hardaway's "Manual of Skin Diseases." The method is as follows: "The local treatment should consist in soothing applications, in the acute form; whereas, in the chronic form of eczema the treatment requires to be stimulating. Water should be avoided in both forms. Accumulation in the canal of whatever character it may be is best removed by means of the absorbent cotton mop or curette and angular forceps,—provided always that the operator possesses the necessary patience and skill." This sums up the whole matter. It is as frequently the lack of patience as the lack of skill; for how much easier it is for a physician to consider his own convenience and employ the syringe instead of resorting to more satisfactory methods requiring additional time and patience. Dr. Hardaway has expressed himself as heartily in sympathy with this condemnation of the free use of the syringe in external ear troubles. Of especial value in such cases is the opinion of so eminent a dermatologist.

THE MIDDLE EAR.

The diseases that affect the tympanic cavity may be divided into two classes, namely, suppurative and non-suppurative.

The second class will engage our attention for a short time only, as in chronic affections of this nature the syringe is not advised by any modern authority, and even in acute cases it is much less freely used than formerly. In acute non-suppurative cases where the pain is severe syringing with hot water is sometimes advised for its analgesic effect. This practice is condemned. Dry heat will give just as good results as an anodyne as will moist heat; furthermore the continued washing with hot water softens the tissues and often causes rupture of the tympanic membrane and suppuration. In the early stages of acute otitis media it is very hard to differentiate the suppurative and the non-suppurative forms, and the latter may run into the former unless proper treatment is early begun. In such cases inflation and dry heat are usually all that is required. Where these are ineffectual a paracentesis should be performed. Hence, as the syringe is but little used in the acute form and not at all in the chronic forms by those who have any knowledge of these diseases, we will give attention to the use of the syringe in suppurative conditions of the middle ear.

Suppurative diseases of the middle ear are primarily divided into acute and chronic affections. This classification, however, is but an arbitrary one, the dividing line not being well defined. It should be remembered that there are acute exacerbations of chronic cases and that a simple diagnosis of acute or chronic suppurative otitis media is insufficient. It will not be practical in an article of this scope to cover every form of suppurative otitis media. For the purposes of this article we shall make the following classification, namely: First, we shall consider all acute cases and those chronic cases wherein there is no bone involvement: and second, chronic cases with bone complications under the subdivisions of operative and in-operative cases.

In seeking to determine with which class of cases we are dealing we must not rely entirely on the history obtained from the patient, for here also we shall find the objective symptoms of more value than the subjective ones. The division of acute and chronic cases according to duration is unsatisfactory, and questioning, at whatever length, can never make unnecessary the use of the head mirror, the probe and the auscultation tube.

In taking up the first class of suppurative diseases

I shall quote at some length from an article by Dr. H. N. Spencer written nearly a quarter of a century ago for the *American Journal of Otology*. From an article entitled, "The Dry Treatment in Suppurative Otitis Media," I quote as follows: "A change of views from those I formerly entertained and which seem to be at variance—judging from recent literature—with views held by aural surgeons generally, leads me to offer this contribution to the subject of suppurative inflammation of the middle ear. The common practice in acute troubles of this character, after an opening has been established in the drum membrane (whether it has occurred spontaneously or has been effected by the needle) has been in epitome, the warm water douche and the air bag operation. The bath is designed to keep the parts free from the constantly renewed secretions, and its temperature to afford a grateful application to the inflamed surfaces. It is also supposed that the heat influences favorably the course of the disease * * * * The treatment which I am about to describe and which I have practiced for two years or more is radically different from this, and while it may have been followed by others besides myself, I am not aware if this be true, and the note has not been made of it which I am persuaded it deserves. Becker has written an article (*Monatschrift f. Ohrenheilkunde*, Vol. XIII, No. 5) on dry cleansing in otorrhea in which he claims an advantage for cleansing by means of cotton over the use of water by the syringe or douche. I think that he takes radical ground, but it is the opposite swing of the pendulum and points to a recognition of the dangers which lie in the old method.

"Prefatory to the consideration of a different method of treatment I desire to point out what may be regarded as objections in the treatment by the bath. The middle-ear, it must be borne in mind, is not reached by a stream of water which is directed against a drumhead that has not yet, or has but recently ruptured, and only infrequently and imperfectly in the case of older openings, unless there has occurred destruction of tissue in the outer wall of the tympanum. This at once limits the use of the syringe as a means of cleanliness to the effect it has upon the meatus.

"In acute inflammation of the middle ear, again, if pain continues after rupture of the drumhead the warm water which affords relief during the moment of its contact causes the pain

to occur with increased energy on its suspension. This leads to a prolongation of the bath in which procedure there is danger of involving other structures in the inflammatory process and of the further softening and consequent breaking down of the tissues of the *membrana tympani*."

Illustrative of his method of treatment Dr. Spencer in the above article cited several cases one of which I here quote :

"Case I.—Daisy H., aged 10 years, had an attack of scarlet fever five weeks previous to her call at my office, May 18, 1880. There arose, as a complication of her sickness, a double suppurative inflammation of the middle ear. The middle ear trouble of the right side led to the involvement of the external ear and to subperiosteal post auricular abscess. Her father, who is a prominent physician, incised the tissues over the mastoid to the bone and was under the impression that there was communication with the mastoid cells. This afterward was excluded. The discharge at the time of her first visit to me was quite profuse and very offensive. The ears had been treated by means of the syringe and with various astringent solutions,—apparently to no purpose whatever so far as controlling the discharge went. I found that the inflammation of the right external ear had subsided except some slight redness and swelling in the meatus,—not more, however, than might be caused by the discharge which constantly bathed its walls. There was a circular opening in the right drumhead about two millimeters in diameter, nearly central of the membrane, just below and in front of the *manubrium mallei*. The lining membrane of the *tympanum* showing through the opening appeared very red and swollen. The left side presented very nearly the same peculiarities in appearance except the position of the opening which was higher up, still anterior to the *manubrium*. Rejecting the bath, I cleansed the ear with very great care,—using absorbent cotton on the cotton holder before and after *politzerization*. I then applied powdered *iodiform* through the openings and closed the meatus with a loose-fitting plug of absorbent cotton, which was inserted to the bottom of the canal to rest upon the drumhead. The wounds were dressed twice daily without any change from this treatment until the fourth day when the *iodiform* was omitted. On the fifth day the discharge had entirely ceased, and on the first day of June the openings in the drumhead had closed. I should not omit to state that a catarrhal condition of the naso-

pharyngeal mucous membrane was treated by the insufflation of powder, and the pharynx from time to time received applications of liq. ferri subsulph. (1-4 parts of glycerin)."

This leaves but little more to be said about the first class of suppurative troubles. The uselessness and even harmfulness in using the syringe in these cases is well expressed in this pioneer article. The treatment described in the case quoted is not the treatment which Dr. Spencer gives at the present time. The cleansing is done in the same manner, but powder is never used in acute cases, and seldom in cases where a large perforation is present. Instead of cotton plugs a gauze drain is often used. The treatment varies to suit the case. In those cases in which suppuration is very profuse the syringe is very useful; but it should be used by the physician himself and discontinued as soon as the discharge moderates. Its use should be supplemented by the use of the air bag or catheter and the ear left as dry as possible. The practice of placing the syringe in the hands of a patient can not be too strongly condemned. Dr. F. R. Packard, of Philadelphia, in an article entitled "The Value of Early Incision of the Membrana Tympani in the Treatment of Acute Suppurative Disease of the Middle Ear" (*Medical News*, September 17, 1904), says: "I believe that douching out the ear by the patient or nurse is distinctly contraindicated from the fact that no one but a skilled aurist can properly dry the ear after such procedure and that the little pool of fluid which is left is very harmful in that it affords moisture for the furtherance of bacterial growth." This is an admirable statement of the situation.

As above indicated, the second division of suppurative affections of the middle ear include those cases wherein bone complications are present and may be considered under two heads, namely, operative cases and cases in which no operation is necessary. The dividing line between these two subdivisions is indeed indefinite, much depending on the individual opinion of the surgeon. Considering first those cases in which no operation is necessary, I am of the opinion that this class of cases would be larger and the class in which an operation is necessary, correspondingly smaller if more thought and attention were given to the matter of dressing the cases. I shall not attempt to discuss at this point the merits of radicalism and of conservatism; but I believe that by prompt and suitable treatment an operation will be rendered unnecessary

in many cases. It is of vast importance that the bony involvement in these cases be located and the treatment properly directed. Where the canal is full of fetid pus I think it can best be removed by the use of the syringe. The cleansing, however, should not stop here, for the ear must be left as dry as possible as well as clean. In such cases the syringing should not be kept up indefinitely. Often the first thorough cleansing will put the ear in such condition that the second cleansing may be accomplished without the use of the syringe, at any rate the use of the syringe can, as a rule, be discontinued after a few treatments. Where the disease is limited to the attic the occasional use of Dr. Blake's attic syringe may be of great value. In these cases the parts can be fairly well dried by means of small pledgets of cotton on the applicator so bent as to pass through the perforation and sweep the attic. The syringing should not be too frequent. A great deal may be accomplished by the instillation of drops after the cleansing, for which I prefer alcoholic to aqueous solutions; afterward the ear should be thoroughly dried. The insufflation of powders should be practiced sparingly. Where there is a large perforation or a defect, especially if the trouble be anterior in the field of the opening of the Eustachian tube syringing through the Eustachian catheter sparingly practiced may be of great aid to therapeutics. This, of course, can be undertaken only where there is a very plain perforation murmur on auscultation. This is a method quite in vogue in the clinic of Prof. Grunert and Prof. Schwarze in Halle a'Saale.

The last subdivision of suppurative cases as above indicated covers those cases in which an operation is performed. I have no intention of discussing the indications for an operation or the character of the operation advisable; I merely wish to mention the leading classes of operations in relation to this subject. Where the bone complication seems to be limited to the attic and the discharge is not very profuse, I have attained excellent results by removing the malleus and incus and, in some cases, the external attic wall. The condition of the cases chosen for this operation was such that I have never found the use of the syringe necessary. Dry methods have ever proved eminently satisfactory. In acute mastoid cases and in cases where the so-called radical operation has been performed, I have found it advisable to use the syringe where the suppuration has been very profuse, but only under such condition, and

even then I discontinue its use as soon as it is at all expedient to do so.

Before making our final deductions a word remains to be said about the internal ear. In these cases the syringe is used only by a person absolutely ignorant of the conditions he attempts to treat; hence, the internal ear may be dismissed as summarily as was the auricle.

We have now covered nearly every use that the syringe can have in ear work. The object has not been to discuss the general therapeutics of ear diseases, yet wherever this has been touched upon the object has been to suggest some better method than the one which relies entirely on the use of the syringe. The primary object has been to condemn the ill-advised use of the syringe and to insist on its proper use. This is of first importance, and a careful and thorough diagnosis of every case must be made before any treatment is attempted. Serious and even fatal results can follow a neglect of this rule. In almost all cases it must be sparingly used, and not too long at a time nor too often. The solutions used in syringing should always be warm or hot according to the requirements of the case; never cold. The solutions, the syringe itself and the physicians hands should be surgically clean. In removing foreign bodies, cerumen or products of disease the stream should be directed between the body to be removed and the upper anterior canal wall. Care must be taken not to use too much force. After syringing, the parts must invariably be dried, thoroughly and carefully.

Buried Sutures.

By EDMUND A. BABLER, M.D.,

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THE Indian tanned deer-skin ligature, first used as a buried pedicle ligature by the immortal McDowell, was but the "stepping-stone" to the ideal buried suture material invented by Physick, and introduced into general surgery by the illustrious Lister.

Buried sutures and aseptic methods have revolutionized surgical technic and minimized the untoward effects of oper-

ative procedures, thereby placing surgery on a more scientific and firmer foundation.

Experience has taught us that Nature abhors and frequently rebels against the presence of foreign bodies of all kinds in living tissues, and since the mechanical function of any buried suture is simply to keep the tissues in proper relation until a firm union has been established, it is evident that the ideal material for buried work is one that will be absorbed by the tissues just as soon as Nature has performed her part.

I fully concur with Dr. Senn, who holds that sterile catgut is destined to render silver wire, silk and other non-absorbable material obsolete, but I do not agree with him when he says that the catgut should be mildly antiseptic. Dr. Senn leans toward the Claudius' iodized gut, which latter will be fully described in taking up catgut sterilization.

There can be no doubt that modern aseptic surgical technic enables the careful and skilled surgeon to bury fine silk and other pliable and non-irritating, non-absorbable material just as successfully as sterile catgut. Dr. Kocher's extensive experience confirms this assertion, but surgeons have long appreciated the pressing need of sterile catgut. To-day, sterile catgut can be readily obtained, but before describing the technic of sterilization, brief mention will be made of a few of the important varieties of non-absorbable material.

SILVER WIRE.

Silver wire has long held an important place in surgery. Its one redeeming feature has been that it was strong and could be frequently boiled without injury. Sir Frederick Treves voices my sentiments when he says: "For certain purposes, where great strength is required, there is nothing better than silver wire. Many surgeons have extended its use to such operations as the radical cure of hernia, abdominal section, etc., but there does not seem to be sufficient reason for employing such a rigid and possibly irritating material."

Dr. Bartlett has devised a wire filagree for strengthening extensive defects in the abdominal wall. In the seven cases in which he employed it, the results were excellent. Other writers have reported similar favorable results, but personally, I have never found it necessary to employ it. Cromicized gut is fast replacing silver wire as a buried suture material.

It seems quite probable that the use of silver wire will be

eventually limited to the wiring of bones. Even as a subcuticular suture I prefer sterile gut.

Dr. H. G. Mudd has used silver wire quite extensively and does not consider it to be irritating. In closing the abdomen it has been employed with excellent results. In one instance the abdomen became greatly distended a few days after operation but the severe tension did not in any way effect the sutures. Dr. Mudd feels confident that no other suture would have withstood the tension.

SILK.

Fine silk is an excellent suture material. However, it cuts delicate tissues more readily than either linen or catgut. Large sizes seem to be somewhat irritating (?).

In intestinal work it plays an important rôle, but linen is claimed to be preferable, since it can be more frequently sterilized without injury; the same size linen thread is stronger than that of silk, and cuts less readily.

Silk is very valuable as a mattress suture for rejoining the aponeuroses where an exploratory abdominal section has revealed an inoperable condition and where it is advisable to get the patient up and about as soon as possible. Many surgeons find chrominized gut combined with adhesive strips preferable even in these latter cases.

Dr. Kocher's motto: "Away with catgut! and use only silk sutures for all aseptic operations," simply indicates that his juniper oil method of catgut sterilization was defective and that his experience with absolutely sterile catgut has been very limited. In his recent work, he acknowledges that the latter is true.

Dr. Marcy agrees that silk is not the ideal material for buried sutures.

Dr. Dorsett discarded silk many years ago, except for appendectomy.

Dr. Carson uses fine silk purse-string sutures for his appendectomy cases with most excellent success.

In intestinal work it is safer to use fine silk for approximating the intestinal mucosæ, at least the surgeon sleeps better at night after having used it.

LINEN.

Linen is fast replacing silk. As before stated, it can be

frequently boiled without destroying its tensile strength and is stronger than the same size silk strand; it cuts delicate tissue less readily. My personal experience with linen has been somewhat limited but quite satisfactory.

KANGAROO TENDON.

This suture material has not found extensive use in America. Sir Frederick Treves considers it the best material for buried sutures. He places the dry form, as purchased in England, in a strong alcoholic solution of carbolic acid, and finds that prolonged emersion renders the tendon perfectly sterile.

Dr. Dorsett's experience as well as that of other American surgeons has not been satisfactory. Dr. Dorsett lost two cases, after having used the tendon, he found that sizes above No. 2 or 3 could not be made aseptic.

Dr. Marcy used formaldehyd to sterilize kangaroo tendon. Great care is necessary, since too strong a solution or too prolonged sterilization ruins the tendon.

In aseptic wounds the tendon becomes incorporated with the surrounding fibrous tissue and practically never acts as a foreign body (Treves).

Any method used to sterilize kangaroo tendon must be capable of destroying tetanus bacilli, so often found present, without impairing the material.

Dr. Marcy sees no reason why the tendon can not be secured under aseptic precautions and properly cared for, thereby reaching the surgeon free from tetanus bacilli, etc.

It may be possible to sterilize kangaroo tendon, small sizes at least, after the cumol method (?).

The absorbable material will now be presented:

CATGUT.

Without doubt, the ideal material for buried sutures is sterile catgut. With perfect aseptic surgical technic and sterile suture material there can be no infection in aseptic cases.

The leading objection to catgut has been the difficulty and uncertainty of perfect sterilization without impairing its tensile strength or diminishing the life of the gut.

Catgut, unless perfectly dry, can not stand a high degree of heat without serious injury. Chemical agents can not be depended upon, since they are uncertain in their bactericidal properties.

Many methods for the sterilization of catgut have been presented; quite a few of them are unreliable. In my opinion the very best method is Krönig's cumol method as modified by Clark and Miller, and as carried out by Carson.

Schaeffer's method has been found simple but experience proves it to be unreliable.

Kossmann's method causes the gut to lose its tensile strength, becomes swollen and is not to be recommended (Clark).

Sweet oil method.—Sweetnam heats catgut in sweet almond oil, containing 10 per cent carbolic acid, for one hour, over a water bath at a temperature of 212°F. This gut is preserved in the same solution.

Kocher lauds his juniper oil method but it can not be denied that essential oils and chemical agents are very uncertain in their bactericidal properties, hence can not be depended upon. There is no advantage in using a suspicious method when a perfectly reliable one is at hand.

Claudius' Method.—In 1902 Claudius reported the investigations made by him while working under the directions of Prof. Blach. Claudius found that catgut could be rendered mildly antiseptic without in any way affecting the good qualities of the suture material. The method is very simple and described as follows: Ordinary raw catgut is wound around a glass spool, two strands to a spool, and placed in an aqueous solution consisting of iodine, 1 part; kali iodid, 1 part, and water, 100 parts. It is advisable to dissolve the potassium iodid in a small quantity of water and then to add the finely pulverized iodine, after which this concentrated solution is added to the remaining 100 parts of water. The solution is then placed in a glass jar labelled with the date. After eight days immersion the gut will be ready for use. When wanted, a spool is removed to a dish containing a 3 per cent solution of carbolic acid or any indifferent sterile solution. The superfluous iodine is then removed from the surface of the threads. Unused gut may again be placed in the jar. Catgut thus treated becomes pitch black, plastic, elastic and easy to tie. It is also claimed that absorption takes place in from twelve to sixteen days. It is strongly antiseptic.

Dr. Senn was the first in the United States to call attention to its use; he has been quite favorably impressed and lauds the method.

Dr. Binney speaks well of the Claudius method. By washing the iodized gut in 95 per cent alcohol to remove the superfluous water, and then placing it in a solution of biniodid of mercury, 1 part; 95 per cent alcohol, 1000 parts, and glycerin, 20 parts, he claims that the gut becomes stronger and faultless.

Dr. Moschcowitz advocates the use of iodized gut after the Claudius method.

Dr. Van Hook condemns the Claudius method, claiming that the gut so treated becomes fragile and has not an agreeable handling quality after prolonged storage. He returns to the old method advocated by Elsberg.

Dr. Salkindsohn finds that iodized gut, after Claudius' method, loses its firmness in time. He holds that this may be obviated by placing the iodized gut for one week in a solution of 1 part tincture of iodine to 15 parts spirits vini, 50 per cent.

Recently Dr. Claudius has reaffirmed the superiority of gut treated after the method laid down by him about two years ago.

Dr. Stone has modified Claudius' method by the following technic: Immerse raw commercial catgut in an aqueous 4 per cent formalin solution for thirty-six to forty-eight hours, then wash in running water ten to twelve hours to free the excess of formalin, and then submerge after the method advised by Claudius. Stone finds that gut so treated becomes stronger and its resistance to dissolution in the tissues is increased, resembling chromicized gut in this particular.

Dr. Triollet advises the sterilizing of catgut by boiling it in alcohol. He winds the catgut on a small vial, which is then filled with water and placed unstopped in a jar containing 10 cc. acetone. An air-tight cetal cover is then screwed on the jar and the whole is heated for forty minutes at 120°C. The fumes of the boiling acetone hold the water down in the small vial, the pressure of the former being four and a half atmospheres, and of the latter only two atmospheres.

The sterilization of the catgut proceeds, therefore, as if there were no water in the jar. After the jar and the catgut are cooled again the jar is turned upside down, the water diffuses with the acetone and the gut soon becomes soft and pliable.

Krönig's Cumol Method.—Dr. Krönig was the first to use this valuable method. His technic has been found slightly

defective and since modified by Clark and Miller. Krönig made the mistake of transferring the dry sterilized gut into benzin instead of placing it in wide-mouth sterile test-tubes. Otherwise his method has been found perfect, and is gradually becoming appreciated.

The original technic as advised by Krönig was as follows : Raw catgut having been cut into the desired lengths and wrapped in filter paper, was gradually brought to a temperature of $70^{\circ}\text{C}.$, at which temperature it remained for two hours, thereby rendering the gut absolutely dry. Cumol was heated to $100^{\circ}\text{C}.$ and the gut then placed in the same. The cumol was then heated to $165^{\circ}\text{C}.$ and kept at that temperature for one hour. Now decant the cumol and the excess left in the catgut will be evaporated by leaving the vessel on the sand bath one hour longer, the flame having been removed. Then place the dry gut into benzin where it will remain until ready for use.

The modified technic advised by Clark and Miller is as follows :

1. Cut the catgut into the desired lengths and wind it into small coils or rolls containing eight to ten strands. It should not be tied, or only loosely.

2. The catgut is placed in the hot-air oven and gradually brought to a temperature of $80^{\circ}\text{C}.$ and held at this point for one hour.

3. Place the catgut in cumol, which must not be above a temperature of $100^{\circ}\text{C}.$, then raise it to $165^{\circ}\text{C}.$ and hold it at this point for one hour.

4. Decant the cumol and either allow the heat of the sand bath to dry the catgut or transfer it to a hot-air oven, at a temperature of $100^{\circ}\text{C}.$ for two hours.

5. Transfer the rings with sterile forceps to test tubes, previously sterilized, as in the laboratory.

It is necessary to remember that the raw gut must not touch the bottom or sides of the hot-air oven or the wire cage, hence it is best wrapped in filter paper and placed in the cage.

If a sand bath be improvised, as suggested by Krönig, great care must be taken that the gut does not come in contact with the glass beaker. It is better and more safe to purchase a Clark cumol sterilizer, since the technic becomes more simple and less dangerous.

Miller presents the following notations :

1. Catgut must be thoroughly dried before subjecting it to the high temperature of boiling cumol.

2. The vapor of cumol is highly inflammable and heavier than air, hence it must not come in contact with a flame or a red hot metal.

3. If the catgut has not been perfectly dried it will become brittle on boiling in cumol. Cumol can be used repeatedly. No. 3 catgut is absorbed in ten days but becomes impaired in strength after the sixth day.

Through the kind courtesy of Dr. N. B. Carson, a presentation of the cumol method as carried out by him has been made possible and for which favor I hereby acknowledge my most sincere thanks. During the past few years Dr. Carson has had most gratifying results with catgut prepared by him self, after the following method:

1. The raw gut as obtained from any reliable firm is cut into proper lengths and skinned.

2. Wrap in filter paper.

3. Wrap in oil paper.

5. Place in a wire cage and place this cage in a drying oven and run the temperature very slowly up to 80°C. during twenty-four hours, leaving one end of the paper open. Hold one hour at 80°C.

5. Heat cumol to 100°C.

6. Close the open end of the paper and place the wire cage and contents in the cumol (submerge).

7. Run the temperature of the cumol up *slowly*, just short of the boiling point (159°C.) and keep at this temperature for one hour.

8. Drain off the cumol after having extinguished the flame.

9. Place the wire cage in the drying oven and gradually run up the temperature to 100°C., for two hours. (An excellent method is to permit the gut to remain in the drying oven, at about a temperature of 50°C. for several hours).

10. Sterilize large and small glass tubes and then place the desired number of skeins in the small tubes, after which the latter are placed in the large tubes. By sealing the open end of the large tubes the inner tubes remain perfectly sterile. Of course, the tubes must be handled with gloved hands and under the most strict aseptic conditions. The method is somewhat simplified by having an assistant to seal the large tubes

just as rapidly as you have placed the gut in the smaller tubes and thence into the larger ones.

When wanted the nurse simply breaks the outer tube and empties the inner tube containing the sterile gut upon sterile cloths where the cotton stopper can be removed and the sterile gut secured.

Catgut thus treated is absolutely sterile, strong and meets every desire.

The sole objection to the technic is the length of time required, but one is amply repaid by the material produced.

Dr. Mudd has found that chromicized gut is not always absorbed and in such instances it frequently induces discomfort to the patient, requiring subsequent removal. Personally, I know no instance where chromicized gut prepared by Dr. Carson's cumol technic has caused any subsequent trouble.

In closing, I desire to emphasize the following:

1. Do not dehydrate the catgut insufficiently or at too high a temperature or the gut will be brittle. Dehydrate slowly.

2. Do not tie the gut tightly.

3. Do not place the dehydrated gut into cold cumol; have the cumol at 100°C . but extinguish the flame under the cumol boiler before placing the gut in the cumol.

4. Purchase a large cumol boiler so that a large quantity of gut can be sterilized at a time.

5. Brittle catgut is due to insufficient dehydration or to placing the dehydrated gut into cumol below a temperature of 100°C .

6. Every step in the technic must be carefully performed and perfect asepsis must be duly observed.

7. Place the glass tubes and the cotton plugs in the sterilizer for one hour each day for three consecutive days before placing the sterile gut in same.

8. Non-absorbable chromicized gut often causes great discomfort and requires removal.

9. Non-absorbable chromicized gut is far more irritating than silver wire.

10. Chromicized gut prepared after the modified cumol method is readily absorbed and perfectly reliable.

11. I firmly believe that absorbable chromicized gut is destined to replace silver wire and other non absorbable material for all buried work.

Eye-Strain as a Cause of Migraine.

By W. A. SHOEMAKER, M.D.,

ST. LOUIS, MO.

MIGRAINE is a neurosis, characterized by severe attacks of headache, usually unilateral, coming on in paroxysms which are frequently periodic. With the pain in the head are associated, generally nausea and vomiting, and sometimes ocular symptoms, as photophobia, blurring of vision, bright lights, scotoma scintillans, hemianopsia, and transient amblyopia. Since the time of Hippocrates, this train of symptoms, with many others which at times go with it, have been described by many writers both lay and medical; the former being chiefly persons who have been subject to attacks.

As to the pathology, Thos. M. Leszynsky, in the "Reference Handbook of the Medical Sciences," Vol. IV, page 551, says: "The pathology is still obscure. The prevailing and most plausible theory is that the attacks are due to periodical discharges of nerve force originating in the cerebral cortex or in the sensory centers, involving principally the intracranial branches of the trigeminus and the pneumogastric nerves. According to a recent 'mechanical' theory, the attack is produced by an acute transient closure of the foramen of Munro and a consecutive swelling of the brain (Spitzer)."

The assigned causes of this disease have been as numerous as the remedies which have been given for the relief of its distressing symptoms. There can be no doubt, however, but that heredity plays a very important role. It is more commonly direct than in almost any other neurosis, and is more likely to be transmitted by or through the mother. Females are more frequently affected than males. It begins early in life, some cases as early as the fifth or sixth year. Church and Peterson say that thirty per cent of the cases begin between the fifth and tenth years of age. This is probably too high a percentage, but the majority of cases begin by puberty or shortly thereafter. Among the many causes of the attacks mentioned by writers in text-books, are indigestion and intestinal auto-toxemia, lithemia, constipation, errors in diet, mental overwork, anxiety, excessive fatigue or exhaustion from any cause, menstruation, emotional excitement, dental caries, and naso-pharyn-

geal diseases. Eye-strain is also given as one of the so-called reflex causes, by many of the writers, but very few, if any of them, give it the attention which I think it should receive. Barthalow, A. A. Stevens, Taylor, Anders and Osler merely refer to it as a possible cause in some cases. H. C. Wood, in "Pepper's System of Practice," gives it more space. In discussing migraine, he says: "Peripheral irritation, such as eye-strain, may greatly aggravate the disorder and must be carefully prevented." Church and Peterson say: "The cases beginning in early childhood very frequently follow the first systematic use of the eyes for near vision, as in school work. *Eye-strain* arising from accommodative or muscular asthenopia is certainly competent to excite migrainous attacks in those predisposed." Fuchs and Noyes make no mention of it. Chas. A. Oliver, in "Norris and Oliver's System of Diseases of the Eye," says: "In many cases migraine has one of its main causes in ocular disturbance and can frequently be benefited by attention that is directed toward the visual apparatus." Myles Standish, in the same system, after mentioning causes which may precipitate an attack of migraine, says: "Last, but not least, ocular fatigue. There would seem to be no reason why attacks of migraine should not be precipitated by the same ocular strains that precipitate epileptic convulsions, but my experience leads me to think that refractive strain is a much more fruitful cause of attacks of migraine than abnormalities of the ocular muscles." De Schweinitz in discussing heterophoria gives, among the general symptoms, headache as the prominent one and says: "It may be a typical migraine." He seems to think muscular imbalance a much more common cause of migraine than ametropia. George M. Gould attaches very little importance to the heterophorias, but believes that it is due to ametropia, especially the low degrees, and goes far in advance of other writers on the subject, holding that migraine in all its forms is caused by eye-strain. He reviews the medical literature on the subject and claims that it, as well as the writings of famous litterateurs who have suffered with the disease, points to eye-strain as the cause, if we but read the symptoms aright.

I have, from the beginning of my career as an oculist, made it a point to examine very carefully the refraction and muscular balance or imbalance of every case of migraine that came under my observation, with a view of discovering what could

be accomplished toward its relief by correcting all abnormalities that might exist. From my records I select four cases which have been under observation for a period of years, and give them as illustrative cases to show that many cases of migraine may be cured or relieved by properly correcting the ametropia.

CASE 1.—A physician, aged 35 years, consulted me in April, 1896, giving the following history: Father suffered from migraine until the age of 50 years, when the attacks ceased. Mother has always suffered from it, and still does at the age of 80 years. At about the age of 10 years he began having attacks of sick headache at intervals of a week or two and lasting three or four days. The pain was more severe in the left temple, but involved the right, as well as the occiput. Nausea and vomiting always occurred.

Being a constant sufferer, and unable to pursue his studies with any comfort or satisfaction, and finding no relief from internal medication, he consulted an oculist in 1886, who prescribed a weak spherical, for reading, without benefit. In 1889 he consulted another oculist who prescribed -75 D.C. ax. 105° for O.D. and -25 D.C. ax. 75° for O.S., for constant use. These he wore from that time until he consulted me, with the result that he was able to use his eyes as much as desired; his headaches occurred at intervals of months instead of weeks, and were much less severe. I found no change in his refraction and advised him to continue wearing the same glasses.

$$\text{V.O.D.} = \frac{17}{L}, \text{ w. correction} = \frac{17}{xv}$$

$$\text{V.O.S.} = \frac{17}{xx}, \text{ w. correction} = \frac{17}{x}.$$

In speaking to him a few days ago, he told me that he was still wearing the same glasses and that he had sick headache only occasionally.

CASE 2.—Mrs. X., aged 57 years, consulted me November 23, 1897, giving a history as follows: Began having headaches at the age of 10 years. Using eyes for sewing or study would bring on an attack of pain in forehead or eyes, with nausea and vomiting, usually lasting one day. At the age of 48 years she began wearing glasses, and since then has had very little headache. She consulted me on account of a chronic purulent dacryocystitis on left side, of five years' standing, and a chronic catarrhal conjunctivitis of twelve years' duration, which became aggravated if she used her eyes for near work. No

headache or pain in eyes. Had been wearing* the following glasses: O.D.+ .75 D.S. \bigcirc + .25 D.C. ax. 90° , O.S.+ .25 D.S. \bigcirc + .25 D.C. ax. 135° , with +3. D.S. added for reading.

$$V.O.D.=^{17}_{xx}-, w. \text{ correction}=^{17}_{xv}$$

$$V.O.S.=^{17}_{L}+, w. \text{ correction}=^{17}_{xv}$$

A test of the extrinsic muscles showed, adduction 18, abduction 13. Stevens phorometer showed an exophoria ranging from 5.8° to 7° .

Under treatment the dacryocystitis and the conjunctivitis improved, but every time she attempted to read for even a few minutes her left eye would get red and water. I then combined a 2.5° prism, base in, with the glasses she had been wearing, which gave her considerable relief; but after wearing them for several years and still not being able to use her left eye as much as she wished, without its getting red, I decided to tenotomize her left external rectus, repeated tests having convinced me that it was the muscle at fault. This was done in February, 1900. Immediately after the operation the phorometer showed an exophoria of $.5^\circ$. Since that time she has occasional attacks of acute catarrhal conjunctivitis, but she can use her eyes as much as she cares to, without its producing the old symptoms in her left eye.

This case would seem to show that the ametropia and not the heterophoria was causing the migraine, inasmuch as it was relieved as soon as she began wearing the proper glasses.

CASE 3.—Miss X., aged 32 years, a daughter of Case 2, consulted me in June, 1898, giving this history: Began having migraine at the age of 17 years. Using her eyes at near work always brought on an attack lasting from one-half to two days. Began wearing glasses at the age of 19 years, which gave her complete relief, provided she did not use her eyes too much. Six weeks before consulting me she had left off her glasses for an hour and a half which brought on a severe headache, since which time she had not been comfortable. Was wearing O.D.+ 1.12 D.S., O.S.+ 1.12 D.C. ax. 120° .

$$V.O.D.=^{17}_{xv}, w.+1.25 \text{ D.S. } \bigcirc + .75 \text{ D.C. ax. } 90^\circ=^{17}_{xv}$$

$$V.O.S.=^{17}_{xL}, w.+ .75 \text{ D.S. } \bigcirc + 1.50 \text{ D.C. ax. } 110^\circ=^{17}_{xv}$$

The muscle tests showed, adduction 31, abduction 9. The phorometer indicated orthophoria. I gave her the full correction, since which she has been able to use her eyes with comfort as much as she cares to and has no sick headaches.

CASE 4.—Miss X., aged 22 years, a daughter of Case 2, came to me April 20, 1899, giving a history as follows: Began having headache at the age of 8 years. At the age of 14 years the attacks became more frequent, and she has been a martyr to them ever since, always being worse in the spring. The pain was always on the right side in one attack and on left side in the next, alternating with absolute regularity. Distant and near vision good; could use her eyes as much as she liked, the use of them apparently having nothing to do with her headaches. Inasmuch as her eyes never ached, it did not occur to any of her physicians that they might be at the bottom of her trouble. She consulted one good physician after another who prescribed all sorts of medicines, change of climate, etc., without benefit. Her attacks of migraine were coming more and more frequently, practically making an invalid of her, when in despair she consulted me, thinking that perhaps her eyes might be the cause of her suffering, in spite of the fact that they never ached. I found

V.O.D. = $17/x_v$ +, w. + .75 D.S. \bigcirc + .50 D.C. ax. $90^\circ = 17/x_v$

V.O.S. = $17/x_v$ +, w. + .75 D.S. \bigcirc + .50 D.C. ax. $90^\circ = 17/x_v$

Adduction 27, abduction 2. Phorometer showed 1.5° esophoria. A full correction was ordered for constant use, which relieved her headaches completely for fourteen months, when they returned. She again consulted me, and I found

V.O.D. w. + 1.25 D.S. = $17/x_v$

V.O.S. w. + .75 D.S. \bigcirc + .50 D.C. ax. $90^\circ = 17/x_v$

The refraction in O.S. being unchanged.

I gave her the full correction for O.D., which again completely relieved her until November, 1901, when she again reported having had occasional headaches for the last month.

V.O.D. w. + 1. D.S. \bigcirc + .25 D.C. ax. $15^\circ = 19/x_v$

V.O.S. w. + .62 D.S. \bigcirc + .37 D.C. ax. $90^\circ = 19/x_v$

This correction relieved her until January, 1904, when she reported having had several severe attacks at intervals of only a few days. Homatropine, which had been quite satisfactory in the past, was again used. The test indicated that the ametropia had not changed. Feeling that there must be some change that the homatropine had failed to indicate, I prescribed a 1 per cent sol. of atropine to be used three times daily for three days. I then found

V.O.D. w. + 1.25 D.S. \bigcirc + .25 D.C. ax. $15^\circ = 17/x_v$

V.O.S. w. + 1.25 D.S. \bigcirc + .25 D.C. ax. $165^\circ = 17/v_x$

The full correction was ordered, which has given complete relief.

We thus have one case in which the careful correction of the ametropia gave decided relief, but did not cure. One case in which presbyopia with the correction of the ametropia gave entire relief. One case where using the eyes for near work caused them to ache and brought on attacks of migraine, permanently relieved by correcting the ametropia. And one case in which the eyes never ached, where the migraine was completely relieved by correcting the ametropia, but where it promptly returned on the slightest change of the refraction.

Accidental Perforations of the Uterus.

Fairchild (*Annals of Gynecology and Pediatrics*, May, 1904). The physician who uses the sound or curette should bear in mind that both are dangerous instruments if employed indiscriminately. There can be no doubt that examinations of the uterus by the sound and curettements are done too often. While in a limited number of cases accidental perforation can hardly be avoided on account of the softened condition of the uterine wall, accidents which have happened even to the most skillful and unimpeachable operators, yet, it must be maintained that in the majority of instances the whole blame attaches to the physician. The mistake thus made is sometimes aggravated by the subsequent use of irrigation. The rôle played by the professional abortionists in the production of instrumental perforation of the uterus is too well known; their lack of conscience is only equalled by their ignorance. If the perforation is small and made with clean instruments, and if irrigation is not employed, rest and the application of ice will generally follow by recovery. The same treatment may be sufficient if a mild peritonitis follows the perforation and the use of irrigation. In severer cases, the septic peritonitis may demand vaginal hysterectomy with drainage. In more extensive perforations, vaginal section or laparotomy, with closure of the uterine wound may suffice to meet the indications. The possible necessity of a subsequent serious operation should be a warning against the indiscriminate use of sound or curette.

LEADING ARTICLES.

THE INTERNATIONAL CONGRESS OF ARTS AND SCIENCES.

By EDMUND A. BABLER, M.D., St. Louis.

The Congress of Scientists convened in Festival Hall Monday afternoon, September 19, and adjourned Saturday, September 24. It was the most notable congress of learned men that has ever assembled at any place, and was the crowning glory of the world's greatest and grandest university—the Louisiana Purchase Exposition. Almost 100 of the 117 invited were present in person. Each delegate was a leader in his respective field of work and represented the flower of intellect of Japan, of Europe, of Canada, of America, or from whence he came. It is quite probable that many years will elapse before such a notable body again convenes. The Committee on Organization deserves great credit for the manner in which the entire field of knowledge was subdivided; each department and its various special branches being made the subject of special addresses.

The central purpose of the Congress was the unification of knowledge. It also enabled those present to become personally acquainted and to express their sentiments on subjects and problems of the greatest importance.

The address of welcome was delivered by President David R. Francis, who thanked them for coming and wished them God speed in their labors. Director of Exhibits, Frederick Skiff, welcomed the various foreign delegates. He compared the delegates to the faculty of a great university; the material on exhibition, the laboratories and the museums; the students were mankind.

Sir William Ramsey, of London, responded on behalf of England, stating that England considered America a relative and not a foreign country. He was followed by M. Gaston Darboux, who spoke in his native tongue, extending the greetings of France and the Academy of Arts and Science, of Paris.

Professor Wilhelm Waldeyer, of Berlin, brought words of gratitude from Germany. Professor Theodore Escherich made a brief response in behalf of Austria. Dr. Oscar Backlund, of St. Petersburg, made a few remarks expressing the kind greetings of Russia. Signor Attilio Brumalti spoke in his native tongue and received a hearty welcome.

Professor Harper, of the University of Chicago, discussed the scheme of the Congress and pointed out its object, particularly the securing of a comprehensive view of the various fields of learning; the consideration of their interdependent relations as bearing on the unification of knowledge; the formation of a platform from which all the various problems of which future solutions were earnestly looked for, might be presented; and, finally, the promotion of mutual sympathy and practical co operation among the distinguished investigators and scholars of all countries which would ensue as a consequence of the living together of those whose life's work naturally kept them asunder.

Professor Simon Newcomb, President of the Congress, addressed the assembly on "Evolution of the Scientific Investigator." This address was quite lengthy, but was heartily received.

The chief attraction of the Tuesday morning session was the masterly address entitled, "The Utility of the Sciences," by Professor David Starr Jordan, President of Leland Stanford, Jr. University. He regarded the problem of immunity as being the subject of prime importance to the medical sciences of to-day. The development of pure science must precede that of utilitarian science. We do not need more medical colleges for instilling into students the mere elements of medicine but a greater devotion to research, a more thorough grounding in science, and the proper endowing of medical colleges.

GENERAL MEDICINE.

This section was called to order by Professor William Osler, of Baltimore, the chairman, who presented Dr. William T. Councilman, of Harvard University. The subject of his address was, "The Modern Conception and Methods of Medical Science." Attention was called to the progress that had recently been made in both the conception and the method of medical science. As a consequence of its separation from speculative philosophy, medicine had at last come to

take its true place as one of the natural sciences and had kept pace with progress in all of the departments of knowledge ; medicine had for its problems the causes, nature, prevention and cure of disease. Disease had come to be regarded as a condition of a living thing in which there was disharmony of function. Two methods have been employed in our effort to seek knowledge : First, to form conceptions of objects studied by means of impressions conveyed by the senses, and, second, by speculation. Philosophy had at all times accorded to disease a most important place ; but speculation alone could never attain to the great ends of philosophy which demanded a proper use of all the material of observation that the natural sciences afforded. He stated that probably the greatest change in regard to medicine in the last century was the general acceptance of the view that medicine was one of the natural sciences and must be pursued by the same methods as it had been found necessary to employ in the other natural sciences. The microscope had extended the limit previously placed to the study of gross pathology. The brilliant results in surgery had changed that from the most despised to the leading branch of medicine. The speaker referred to specialization as another change effecting both investigation and the exercise of medicine. Of recent discoveries in medicine the most striking was that the blood serum contained many complex substances, some of which played an important rôle in the economy, but for others no purpose had as yet been discovered, and a knowledge of these substances was chiefly confined to their efforts. The close association of comparative with experimental might help to reveal the relation of chemic variations to disease susceptibility. A study of the infectious diseases had given rise to the most brilliant results in experimental medicine. Experimental medicine was comparatively new. Experiments upon human beings was only warranted when the knowledge to be obtained was of the highest importance and the subject of such experiments were adults who fully appreciated the dangers thus incurred.

The successful practice of medicine depended more than ever before upon the use of methods which give an accurate knowledge of the condition of the sick, and training in the exercise of these methods was the most important part of a medical education. In other words, he would give the student more clinical work.

PUBLIC HEALTH

This department was preceded over by Surgeon-General Wyman, of the United States Marine Hospital Service, who, on Wednesday morning, presented Professor W. T. Sedgwick, of the Massachusetts Institute of Technology, who delivered an address entitled, "The Relation of Public Health to the other Sciences." He used the term, public health science advisedly, for any division of human knowledge that had worked out its own laws with strict adherence to the rules of inductive and deductive reasons as public health science had done, and which had reached results which had enabled it to predict with accuracy as could now be done in public health science, was entitled to an honorable place among physical sciences. In 1767, Sir George Baker found that the epidemic of colic in Devonshire, England, was due to an obscure poisoning by lead conveyed through the common cider of the district. This was the first distinct discovery in public health science. The startling revelations of John Howard laid the foundation of State hygiene and sanitation. When Captain Cook was awarded the Copley medal of the Royal Society, it marked the beginning of marine hygiene and sanitation. Edward Jenner's discovery laid the foundations of personal hygiene and immunization. In 1802, factory hygiene was instituted; in 1829, the first municipal water filter was constructed, and in 1834, the discovery of the important relation of poverty to public health was revealed. The decade from 1880 to 1890 could be called the "decade of etiology," since then were discovered the hitherto unknown microbes of diphtheria, tetanus, typhoid fever, tuberculosis, malaria and Asiatic cholera.

It was not until Pettenkofer, of Germany, and Angus Smith, of England, and their followers, began their splendid chemical work that the tributary stream of sanitary chemistry added materially to that of public health science.

Architecture would continue to benefit the students of public health science. Human beings deserved the best air obtainable; for the best work, the longest life, the greatest happiness, as well as for perfect health, the very best atmosphere was none too good. The present had rightly been called the "Golden Age of Engineering," and to no other science to-day, excepting only medicine itself, was public health science more indebted than to the engineering science. The department of engineering was yet in its infancy. The speaker stated

that all schools, even the medical, had neglected this subject of public health. The introduction of pure water supply had given a lowered death-rate, so conspicuous that it was impossible to escape the conclusions that the germs of a greater number of infectious diseases than was formerly supposed were capable of prolonged life in, and readily conveyed by, public water supply, and that as a result of the greater purity of the water supply the physiological resistance of the consumers of pure water supplies had become enhanced in some manner as yet unknown.

Praise was given to Professor Brown, of the Massachusetts Board of Health, and to Professor Palmer, of Illinois, for their excellent chemical work.

Bacteriology was referred to by the speaker, who stated that bacteria and other forms of plant and animal had so lately begun to be appreciated that they were still of the greatest importance, and that the discoveries of botanists and zoologists, and the revelations of the microscope in this domain were comparable in importance to the public health, to nothing less than the revelations of the telescope to astronomy.

In America there were symptoms of a reaction against the evils of sedentary lives, in parks being thrown open, public and private gymnasiums, play grounds, baths, etc., for the promotion of public hygiene.

Dr. E. J. Lederle, of New York, was unable to be present and his memoir, entitled "Public Health—Its Present Problems," was read by proxy. Dr. Lederle thinks that a new profession has been called into existence in the person of the sanitarian. One of the most important subjects which confronts us is the relation of legislation and administration to public health science. The ideal board of health should consist of a medical man thoroughly proficient in bacteriology, a trained engineer, and a man of affairs selected especially on account of his breadth of view and his administrative capacity. The establishment of a National Board of Health was strongly advocated; he would thus dispose of many serious questions. Adequate training of sanitary officers would then be possible; questions of national quarantine would no longer bother us. The service should secure a higher class of men and the rate of pay should be increased; politics should not be permitted to control any public health appointment. Rigid inspection of public schools was considered urgently necessary, since

they were principal mediums for the spread of contagious diseases. Compulsory vaccination should be enforced in all public schools as a condition of entrance. Private laboratories should be placed under the supervision and direct control of the Board of Health; serum could thus be obtained at a lower cost and well distributed, and research work carried on for the good of the community. Isolation hospitals should be better equipped and more of them established.

Regarding tuberculosis, he urged the foundation of sanatoriums and institutions on a large scale for the care of those afflicted with the disease, since the cost would be less and the community protected. Laws governing spitting, offensive trades, milk and water supply should be more rigidly enforced. Child labor should not be tolerated. The sanitarian, the bacteriologist and the engineer should work hand in hand to secure success.

DISCUSSION.

Dr. A. R. Reynolds, of Chicago, urged a reduction of the time that elapsed between the production and consumption of milk. State laws and city ordinances prescribe all manner of requirements for dairies, cows and the constituents of milk and cream offered for sale, but nothing is said of the age of the milk. He laid stress on the fact that milk twenty-four hours old was worth far less dietetically than milk only twelve hours old, while milk thirty hours old was entirely unfit for use; milk thirty-six hours old has not only very little food value but was positively harmful to infants. By placing milk in a temperature of 50°F. immediately after milking it would keep for three or four days. He said that old milk not only starved but it also poisoned the young; he regarded it as the inducing cause of diarrhea and summer complaint, and was confident that it was responsible for the excessive infant mortality during hot weather. It was, therefore, of the utmost importance that pure, fresh and clean milk and cream be secured.

Dr. J. N. Hurty, of Indianapolis, referred to dust as a factor of disease and Dr. Hessler's recent memoir was mentioned. He had induced an acute coryza in both himself and his pet dog by means of the inhalation of dust collected from the attic.

In reply to Dr. Lederle's assertions, Dr. Wyman stated that recent legislation provided for what would practically be a National Board of Health. He referred to the fact that many independent manufacturers had discontinued the manufacture of antitoxin, while others had

conformed to the government requirements. He felt sure that the State boards of health should never become dependent on the national organization.

PSYCHIATRY.

Dr. William White, of Washington, presided over this section, which convened on Thursday. Dr. Charles L. Dana, of Cornell University, read a paper entitled, "Psychiatry—Its Relation to Other Diseases," in which he indicated the directions from which psychiatry must seek assistance, and first of all he designated clinical medicine, clinical pathology and physiologic chemistry; second, a thorough knowledge of psychology; third, some assistance from pathologic anatomy, but rather from teratological than gross anatomy. The study of the nervous, circulatory and secretory systems was considered of special importance. Viewed from the point of custodial science, state medicine and economics would lend assistance, and in the prevention of insanity also these sciences could render great assistance.

The abuse of alcohol, the vast increase of urban life and the spread of venereal disease have their special evils and must be corrected by proper education. A proper study of these important subjects would likely reduce the present increase of insanity by half. If the type of the disease could be recognized at an earlier date and the proper attention given to the patient, far better results would be obtained. The hopelessly insane and the chronic cases could be treated on the colony plan. The insane would then come more and more to be looked upon as sick persons. A sane mind was considered the most precious thing in social organization.

Dr. Edward Cowles, of Boston, followed with an address entitled, "The Prognosis of Psychiatry." He referred to the increasing importance of comparative physiology and pathology. Physical disorders of function underly every true mental disease. A more thorough study of mental pathology and physiology was needed by the psychiatrist. The problems of psychiatry lay in the functional psychoses. The use of the words psychosis and neurosis in the normal as well as in the pathologic sense had led to confusion, since the word psychosis at present includes mental disease, both functional and organic; the dividing line between the functional and the organic symptoms remained a question.

Disease was not a state of disturbed activity but the results of

such a state. Dr. Cowles said that an emancipation from the whole matter of names was necessary and that it should be understood that all that was known of function was simply through its disturbance. The forms of activity demonstrated by psychology should be included in the category of reduced functional activity.

An address was then made by Professor Janot, of Paris, whose subject was, "Amnesia." President Hall, of Clark University, made an urgent plea for a careful and thorough study of the phenomena and physical manipulations in individual cases of amnesia.

Dr. Morton Prince, of Boston, and Dr. Meyer, of New York, concurred with Dr. Hall. Dr. Marshall, of New York, held that the advancement of psychology depended, not only upon a close observation of facts, but upon the asking of questions by the scientific observers of these facts. The scientific man was often unable to fully understand the condition. He stated that no line could be drawn between sanity and insanity, disease and health and, as a result of that belief having been adopted, a new conception of the entire subject of responsibility and irresponsibility had come about.

Dr. J. J. Putnam, of Boston, disagreed with Dr. Marshall, he felt that the evidence showed that many of the manifestations of life, of the organism as a whole in the reaction against disease—the disturbance of function, were rather modifications of the environment in which the organism lived.

INTERNAL MEDICINE.

This important section held its session on Friday afternoon, Prof. Shattuck, of Harvard University, presiding. Professor T. C. Allbutt, F.R.S., of the University of Cambridge, England, delivered an interesting address upon the "Historical Relations of Medicine and Surgery," relating how surgery had advanced. The year 1864 marked an era of aggression upon each other's domains by the hitherto strictly limited arts of medicine and surgery. At that time the medical portion of the staff of the Leeds General Infirmary discussed the propriety of the administration of drugs by means of a needle. Certain Fellows of the College of Physicians of London performed abdominal section in open defiance of the general sentiment within those sacred halls. The surgeons reproached the "pure" physicians with unjustifiable delay in temporizing by means of medical treatment with cases of volvulus, etc., until too late for surgical intervention; the surgeons

demanding that such cases be given to them immediately; they also demanded that all cases of tuberculous peritonitis, empyema and cerebellar tumors should likewise be transferred. Thus it happened that surgery became almost ideal. Everyone began to discuss the progress of surgery and, *per contra*, the retrogression of medicine, until the surgeon and the internist ceased to be friends.

The separation between the two branches of the healing art gave them externally the appearances of two separate professions. To-day medicine should be contemplated as a unity, and a rational ideal formed as to the methods and aims. Professor Allbutt gave a methodical review of the progress of medicine from the era of Hippocrates up to the Sixteenth century. At the last-named period medicine took a new lease on life and surgery a new foundation, based respectively upon a new physiology of the blood and lymph circulations, and a new anatomy.

Up to the Seventeenth century "pathology was a factitious schedule and medicine a farrago of recipes," most of them harmful, many filthy, all mischievous, either directly in themselves or indirectly as an indication of false therapeutics. Medical education should aim at such developments as will deliver the profession from crawling empiricism and vain imaginings. The infinitely delicate possibilities of touch were considered almost more inconceivable than was the compass of imagination itself. Whatever the future might hold, care should be that all of the energy be not permitted to accumulate at either pole.

Professor Wm. S. Thayer, of Johns Hopkins University, presented a monograph upon the "Progress in Medicine During the Past Century." In the middle ages medicine was almost wholly a matter of faith, consequently any submission to reason was regarded as heresy. When tradition yielded, the study of the natural sciences was followed with a zeal greater than ever before. The clinical method of medical instruction quickly replaced the traditional learning of recognized authorities. Diagnosis was vague and defective; treatment empiric. Indeed, in 1789, the French Academy stigmatized medicine as a "conjectural art." Vaccination was an early instance of the use of scientific methods; a scientific foundation for anatomy and physiology soon followed. The microscope, cellular pathology, the sphygmograph, the clinical thermometer, the stomach-tube, and other instruments, had aided in the development of diagnosis as an art. Physio-

logic chemistry and an increased knowledge of the nervous system became of marked value. Bacteriology placed the subject of prophylaxis on a scientific basis and led to antiseptic or aseptic surgery. In a few short years, the wide investigations of the problems presented by the subject of immunity had given rise to a mine of knowledge, the vast and far-reaching importance of which had not even yet been fully appreciated. We have thus been enabled to abolish the heroic methods of ancient medicine. The physician of to-day needed a far different training than was obtained 100 years ago. The methods of today have replaced the theories of the past. Many have contended that the years of academic training might be better given to practice, and that many a man who might become valuable in a professional capacity, was kept out by the long course of study. Dr. Thayer spoke approvingly of classic studies, and stated that they afforded a training which it was difficult to obtain in any other way. The greater part of a physician's success depended upon his personal influence, his power to inspire and persuade; he stated that these things prevailed more in the case of men of thorough education. Students should be taught better and earlier, thereby producing men of greater caliber.

Professor Paul Courmont, of Lyon, reviewed some experiments in the "Agglutination Diagnosis in Human Tuberculosis." With homogenous cultures of tubercle bacilli from the blood of tuberculous patients were mixed a few drops of blood serum of a suspected tuberculous patient, agglutination resulted if the the suspect was tuberculous. This discovery had been confirmed by more than 1000 cases; in 85 per cent of the cases a positive diagnosis had been attained. Emphasis was made of the importance of this reaction in prognosis.

(To be Continued.)

EDITORIAL COMMENT.

Wassermann and Diphtheria Antitoxin.

Of great practical value are some of the recent discoveries in regard to diphtheria antitoxin as announced by Wassermann in an address delivered before the New York Pathological Society (*New York Med. Jour.*, October 15, 1904). He pointed out that the body of certain bacteria is not a homogeneous mass but is made up of various

molecules which differ biologically from one another. The antibody produced by the injection of bacteria in conforming to these different substances contain a variety of these receptors which correspond to the partial elements of the micro-organism. Now, different cultures may contain these partial elements in different proportions or some may differ entirely from those of another culture. Hence, in the preparation of an antitoxic serum it is necessary to use bacteria from several cultures, in other words, what is called a *polivalent* serum. He prefers the word *multipartial* to designate such a serum. Schwone, of Vienna, has shown that the serum obtained by treatment with a single culture of diphtheria acted only on a limited number of cultures, and in order to obtain a serum specifically affecting all cultures equally, it is necessary to use several varieties in making the serum. A reliable diphtheria antitoxin should be a polyvalent serum.

Wassermann has also prepared a dried bactericidal serum which he recommends for local use to destroy the bacteria in the throat.

The Surgical Treatment of "Chronic Dyspepsia."

The Surgeons at present seem to be especially interested in the treatment of chronic ulcer of the stomach. In fact, it is being shown that most cases of very persistent dyspepsia are dependent on chronic ulcerations. This can in many cases only be relieved by diverting the stream of food; this is done by gastroenterostomy which drains the stomach and rapidly relieves all of the distressing symptoms. But the operation has still quite a mortality, except in the hands of the very skillful, hence the indications for surgical treatment are when the patient has not been relieved after several months or years of careful medical treatment.

Milk Infection and Typhoid Fever.

We all remember cases of typhoid fever in which diarrhea and other marked signs of indigestion were present. This was usually attributed to the typhoid ulceration and considered an essential part of the disease. Moreover, physicians were so anxious to feed patients that a quart or more of milk was forced into the patient without due regard for the patient's digesting power. This is wrong, the food should be carefully given in an amount which agrees with the patient.

Edsall has done good service in calling attention to another evil and that is milk contaminated with bacteria. To the typhoid infection a milk infection is added. He records his experience with milk containing an excessive number of bacteria which caused marked abdominal symptoms, which disappeared as soon as the milk was pasteurized. There can be no doubt that fresh clean milk is as necessary to the typhoid patient as to the young infant.

Cardiac Paralysis Following Diphtheria.

An unusual number of cases of cardiac paralysis following diphtheria have occurred in St. Louis lately. It seems that the prevailing diphtheria germ is especially virulent. The best prevention of this is the early use of a large dose of a reliable antitoxin. Whenever the disease has lasted three days without antitoxin having been injected, watch for cardiac paralysis one to two weeks after the original disease. Under no circumstances should the patient be permitted to run about. When vomiting and breathlessness ensue, put the patient in bed and have a trained nurse constantly at the bedside.

Cancer Research.

The Third Annual Report of the Harvard Cancer Commission only emphasizes the sad fact that we know nothing concerning the etiology of cancer. The parasitic theory is seemingly almost entirely exploded, since the so-called bodies in cancer cells turn out to be nothing but vacuoles. The hope lies in the direction of biological chemistry for parasitology has almost exhausted itself. Even the x-ray treatment of cancer has been shown to be inferior to the knife, and altogether the tremendous researches of the past five years have come to nothing.

Hydrastis.

We are glad that Dr. Stewart at the last annual session of the American Medical Association again called attention to the value of *hydrastis canadensis*. While we are flooded with literature on the synthetic drugs, little attention is given some of the old and valuable drugs obtained from plants. It is a valuable drug in certain catarrhal

conditions of the gastrointestinal tract. In certain forms of bronchitis it acts better than any other medicine. More exact experimental work should be done and more clinical data gathered on this much neglected remedy.

Ergot.

Another drug which is finding increased usefulness is ergot. Livingston has especially recommended it in those general or local conditions depending on congestion. Thus he found it very beneficial in headaches and other pains depending on congestion.

Recently, Chase (*Brooklyn Med. Jour.*) has reported a series of cases of cerebrospinal meningitis treated with ergot and the results were remarkable. He gives the extract of ergot or ergotin, usually by the mouth, in doses of 1 to 3 grains every hour. The effect is usually seen in twenty-four to forty-eight hours and consisted in a gradual remission of all the symptoms.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

The Dietetic Treatment of Chronic Diarrhea.

E. Palier (*Diet and Hygienic Gaz.*, September, 1904) considers the majority of chronic diarrheas of the alimentary canal, aside from tumors, to be due to errors in diet and that, hence, dietetic measures are to be largely relied upon for the cure of these disorders. Nothnagel (*Die Krankh. des Darm. u. des Peritoneum*) divides chronic diarrheas into those which are accompanied by anatomic lesions and those without recognizable lesions which may be denominated functional, but Palier is of the opinion that the only functional diarrhea to be borne in mind is the so-called nervous diarrhea in which dietary errors have no part and is due to excitement, worry, unpleasant reminiscence, fright or other psychic influences.

The experiments of Pawlow have demonstrated the power of such psychic influences over digestion, it must be remembered in many such conditions there is a disturbance in secretion of the gastrointestinal canal as of other bodily functions and this disturbance of

secretion will account for the disturbance in function of the alimentary canal.

Concerning the pathogenesis of diarrhea, Palier is of the opinion that while due primarily to an irritant to the gastrointestinal canal, either mechanical, chemical or bacterial yet, in most instances, it is due to bacteria, and in all cases when the diarrhea is persistent there is an increase in bacterial development in the intestinal canal which aggravates and prolongs the inflammation, and thus a vicious circle is found.

In diseased conditions, therefore, the numerous bacteria found normally in the intestines are enormously multiplied and it is, hence, necessary to attain two objects in their treatment—namely, to abstain from the ingestion of irritant food and food that has undergone any degree of decomposition. Under irritating food must be classed not only that which contains chemical irritants such as acids and strong alcoholics—but also that which contains mechanical irritants—such as connective tissue and the cellulose of vegetables. In fact, the diet should be almost exclusively of animal origin and consist principally of very soft eggs, fish and meat. Milk of good quality and soups of rice, barley or sago are allowable. Of fats, butter alone is permissible. In the matter of beverages, Palier considers weak tea preferable, although cocoa and cold, not iced, water may be used and red wines also when the stomach is in good condition and the diarrhea is not accompanied by piles. But in restricting the diet so largely to animal matter all has not yet been accomplished and the dangers of introducing putrefactive bacteria into the intestinal canal must be guarded against. The rule, therefore, for diarrheic patients is to see that their animal food is well cooked and to eat it as soon as it is ready, while it is hot. Never should such a patient be permitted to eat meat or fish that has been left over after cooking, warm when kept on ice, and meals must be strictly regulated both as to time and amount. A patient suffering from chronic diarrhea should be kept on a careful diet for months and sometimes for years, as otherwise a relapse is apt to follow.

Occasionally the diarrhea alternates with constipation, and Palier advises against the use of drugs to relieve the latter condition and has recourse instead to some articles of diet having a mild laxative action, such as cooked fruits, compotes and the like.

Treatment of Hyperpyrexia in Measles and Scarlet Fever.

Berg (*Med. Record*, July 2, 1904) calls attention to the fact that hydropathic measures for the reduction of fever in measles and scarlet fever are much less potent both in regard to the degree of reduction of temperature and duration of the same than are the same measures when applied in such fevers as typhoid or pneumonia. The reason for this is assigned to be the different effect of cold weather as a bath, sponging or pack upon the skin which is the seat of an exanthem and upon the normal skin. The swelling and infiltration due to the eruption cause pressure upon the capillaries of the skin and their nerves, and hence, the application of cold does not cause the primary contraction and secondary dilatation in a skin thus affected that is the invariable result of cold applications to a skin in normal condition. Thus there is not the necessary exchange of cool blood from the periphery for warm blood from the center and the temperature can not be reduced, and furthermore, perspiration is even inhibited both primarily and secondarily in these exanthemata through causation of a cutaneous circulatory stasis.

Berg believes the sudoriferous glands have in measles and scarlet fever a most important function in facilitating the excretion of specific toxic products, and in fact, that the eruption itself is an evidence of their eliminative faculty of the skin, and hence, any inhibition of this power is contraindicated. In fact, the author uses the hot bath, followed by a dry pack in cases of measles or scarlet fever, with an incomplete eruption with high temperature, to bring out the former and reduce the fever curve to a lower plane. In uncomplicated cases of these diseases, with temperatures above 104°F., Berg is in the habit of placing the patient in a bath at 80°F. which at the end of five or ten minutes is increased to 90° which is equivalent to giving a warm bath after a cold one, thus counteracting any possible affects of the first bath upon the cutaneous nerves and vessels, while keeping the final bath at a temperature considerably lower than the skin. By this method it is claimed the temperature is lowered from 1.5° to 3°F., and that this reduction persists for a longer period of time than when obtained by other measures. Furthermore, the body is covered with a moderate perspiration, the pulse rate improved and frequently a restful slumber follows. The author adds the following cautions in carrying out the above procedure:

First, the warm water must be added from the bottom of the tub, since, when poured upon the top it can not be perfectly mixed with the cooler water, and for this purpose, in private houses, a tin funnel and rubber hose of sufficient length is found usefuul.

Secondly, the patient should not be rubbed after the bath, since the warm water renders such friction unnecessary, and for the additional reason that a pseudodesquamation is produced thereby which practically results in superficial areas of ulceration of the skin beneath.

Fever of lesser degree in this disease is to be controlled by means of sponge baths with water of 70° temperature, to which has been added one-third its volume of alcohol, which latter acts similarly to the secondary warm both in counteracting the evil effects of cold upon the nerves and capillaries of the skin. Here also, applies the author's caution in regard to friction of the skin and the sponging is to be lightly done with a large soft sponge, followed by mere absorption of the excess of water from application of the towel and the patient lightly covered thereafter.

The Prophylaxis of Nephrolithiasis.

G. Klemperer, (*Therap. der Gegenwort*, Vol. 45, No. 8). As the result of clinical and experimental research considers possible the prevention of nephrolithiasis when this tendency exists, by means of a proper diet, the alkaline mineral waters or their manufactured chemical substitutes. Concerning oxalate concretions the author states that when with a mixed diet there is given twice daily 2 gm. of magnesium sulphate these calculi are dissolved, while oxalate crystallization is prevented by the administration of .5 gm. of the sulphate four times a day in conjunction with a diet consisting largely of vegetables, milk or eggs. Phosphatic calculi are due, as a rule, to gastric hyperacidity due to influences arising in the central nervous system and their treatment follows the line of correction of this condition. Mineral waters are found most useful in the tendency to urate formations and in dissolving the same when already present. Cystin stones are due to a derangement of metabolism and their prophylaxis consists especially in a restriction of the dietary to exclude cystin, such as egg and plant albumin in preference to fibrin and serum albumin. Klemperer considers it necessary to continue these measures over a term of years and often during life to continually guard against a recurrence or re-

newal of activity of the tendency existing, and this is brought within the realm of possibility, since the treatment may be followed at home.

Administration of Hypnotics Per Rectum.

Manger, of New York (*Med. News*, September 24, 1904), has experimented with some of the newer hypnotics given per rectum in the form of cocoa-butter suppositories and has proven clinically that the rate of absorption is practically the same as when these drugs were given by the mouth. However, all preparations were not found equally active, hedonal, chlorotone and chloratose being almost worthless on account of their slight solubility, and sulfonal proving more powerful than trional. In addition to these latter heroin, phenacetin and chloralmid were readily absorbed and excellent results were obtained from combinations of sulfonal and trional or sulfonal and phenacetin.

The Treatment of Syphilis.

Jonathan Hutchinson (*Practitioner*, August, 1904) gives a brief outline of the treatment given his luetic patients during the first year of the disease. Medication should never be begun until the character of the initial sore has been definitely determined. A pill containing 1 grain each of gray powder and Dovers powder is then prescribed to be taken three times a day after eating and if within a few days no diarrhea ensues the dose is increased to four, five or six pills at separate intervals during the day. In debilitated subjects 1 grain of quinin is added to each pill. All fruits, green vegetables and soups are interdicted and an alum mouth wash used to guard against pytalism. While the patient is allowed to continue his employment a large amount of rest in bed is advised and no intermission during the treatment during the first year is permitted. As a rule, Hutchinson states that the iodids are to be avoided during the early stages of syphilis but when extensive ulceration is present, iodid of potassium may be given in solution in conjunction with the pill of gray powders which causes a better effect than is obtainable from the single administration of iodid of mercury. It is stated, however, that under a faithful performance of the treatment originally laid down manifestations of the disease in the throat or on the skin are extremely rare.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

Aneurism of the Innominate.

After having studied 147 cases of aneurism of the innominate artery, Francine presents a more definite clinical picture. The most striking clinical feature is the position. A distinctive sign is an angle of re-entry on the external and inferior aspect of the growth, in or above the second interspace. This angle of re-entry separates aneurism of the innominate from those of the ascending or transverse arch, which so frequently point in the second interspace to the right. In half of the reported cases the trachea was compressed, producing a cough which varied in character. In some it was dry, brassy and frequent, and in others paroxysmal and associated with aphonia and hoarseness. Dyspnea was a marked symptom. Dull, aching pain usually present. Edema of face and neck of right side may be a symptom. Dysphagia was not frequent or marked.

Inequality in radial pulse is usually readily demonstrable. There may be found an area of impaired resonance with increased tactile fremitus, and diminished or distant breath sounds, immediately adjoining the tumor; while adjacent to this area of compressed lung there is an area of hyperresonance with diminished tactile fremitus due, no doubt, to vesicular relaxation.

In innominate aneurism the larynx or trachea is more apt to be dislocated or compressed than in aneurism of the arch, while the esophagus is more frequently compressed in the latter. Dyspnea is greater in the innominate aneurism, and referred to a region higher up. The two signs to which special attention is directed, are the regurgitant quality of the right radial pulse, and the angle of re-entry in the interspace.

These cases usually rupture in course of time. The distal ligation of the right common carotid and subclavian, one or both was first

suggested by Brasdor, of Paris. Many favorable reports have been noted. It is always well to try palliative treatment before resorting to surgery.

Functional Albuminuria.

Rohlf (*Iowa Med. Jour.*) believes the origin to be a matter of conjecture, and occurs more frequently than we have been lead to suppose. Repeated examinations at different periods of time, to determine the quantity, permanency and source of the albumin are essential to determine accurately whether the condition is functional or pathological. The lack of thorough investigation leads to error in diagnosis.

Chronic Myocarditis.

Camac, (*Bulletin Johns Hopkins Hospital*, February, 1904), presents a very able and interesting memoir on the pathology and clinical aspects of chronic myocarditis. Perhaps the first thing the well-built, active man complains of is "that he is not feeling himself" and of "irritability" over trivial matters. Increase in weight when associated with even slight dyspnea is an important symptom. Add to these, slightly disturbed sleep, numbness in the hands and feet, a lessened mental acumen, not the old time energy in getting to business, and the first stage - according to Corvisart's division, is complete. Among the early signs arrhythmia and tachycardia are perhaps, the most important. The position of the patient while under examination must be carefully considered by the clinician. The chief guides in prognosis are:

1. Efficiency of the heart
2. Degree of hypertrophy.
3. Conditions of the organs other than the heart.

Treatment may be summed up in the following: Rest, hygienic measures, encouragement, freedom from care, yet, with pleasant occupation, exercise—active and passive. In conclusion the following points are emphasized:

1. The normal anatomy and normal pathology of the heart must be closely studied by the clinician.
2. The knowledge of the pathological anatomy and physiology is essential to clinical study.
3. The study of myocardial disease must be greatly extended by

bedside observation. This can only be done by an honest limitation of our clinical conclusions to the evidence at hand.

4. The diagnosis must be made in the early stages of the disease.
5. Even with the best methods, the diagnosis of chronic myocardial disease at least is difficult, and its nature is obscure.

Splenomedullary Leukemia.

Bryant and Crane, (*Med. Record*) report two cases of this affection with recovery. The first patient was a married woman, aged 33 years. Blood showed, hemoglobin 50 per cent, red cells 3,500,000, white cells 176,000. Stained specimens showed myelocytes predominating, eosinophiles greatly increased, poikilocytosis, few nucleated reds.

The second patient was a male, aged 31 years. Blood examination showed, red cells 3,300,000, white cells 200,000, chiefly large myelocytes, eosinophiles and a few nucleated cells. Spleen was greatly enlarged and limbs were edematous.

The first patient received Fowler's solution in 5 drop doses t.i.d. increasing 1 drop daily; also exposure to Roentgen rays of area over spleen and ends of long bones for ten minutes every other day. Patient improved rapidly and was discharged cured in six weeks.

In the second instance the Fowler's solution was alone administered, but recovery took place in eight months. Reference is made to the case reported by Senn. The evidence seems conclusive that the rays hasten recovery and is indeed worthy of consideration and careful trial.

Leukemia.

Dr. Weber (*Am. Med.*, May 21, 1904) reports a case of splenomyelogenous leukemia treated with the Roentgen rays as suggested by Senn and commended by others. The case reported, presented the usual signs and symptoms of this disease and the blood analysis confirmed the diagnosis.

The patient had been previously subjected to arsenic and other drugs with benefit. Under the Roentgen ray treatment the myelocytes have gradually decreased, both relative and absolutely, until at present they have entirely disappeared. Recent blood analysis shows it to be normal. The case is reported as one of improvement but not recovery.

[This is the fourth case reported, showing improvement under the Roentgen ray treatment.]

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

Simon's Physiological Chemistry.

A Text-book of Physiological Chemistry, for students and practitioners of medicine. By Charles E. Simon, M.D., late resident physician, Johns Hopkins Hospital. New (2d) edition, revised and enlarged, octavo, 500 pages. Cloth, \$3.25, net. Lea Brothers & Co., Philadelphia.

It is not remarkable that a second edition of this work has appeared in two years, when its excellent adaptation to the needs of the student and physician is considered. We regard it as the best elementary treatise on the subject, and the reviews in this volume being the subject matter up-to date. The chapters on albumins, nitrogenous catabolism, gastric and tryptic digestion have been rewritten. Practical laboratory exercises have been appended. We call especial attention to the chemistry of the purin bodies, which is so well elucidated in this work. Very practical too is the well-written chapter on the ferments. "At the present time there is a tendency indeed to assume that most of the vital phenomena are referable to the action of ferments." To-day we know that ferments are present in probably every cell and are intimately concerned in all manifestations of life."

References to antitoxins, toxins, etc., are not made, an omission which is pardonable inasmuch as the chemistry of these substances is so little known. The tests for various abnormal and normal secretions are given, and, therefore, the work is really of great clinical value.

Von Bergmann's Surgery.

A System of Practical Surgery. By Drs. E. von Bergman, of Berlin, P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., professor of surgery in the College of Physicians and Surgeons, Columbia University, New York. To be completed in five Imperial Octavo Volumes, containing over 4000 pages, 1600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6 00; leather, \$7.00; half morocco, \$8 50, net. Lea Brothers & Company, Philadelphia and New York.

Volume V.—The last volume of this encyclopedic surgery is devoted to the consideration of the genitourinary organs and the pelvis. The contents are divided into the following sections :

1. Malformations, injuries and diseases of the pelvis.
2. Malformations, injuries and diseases of the anus and rectum.
3. Abnormalities, injuries and diseases of the kidney and ureter.
4. Abnormalities, injuries and diseases of the bladder and prostate.
5. Malformations, injuries and diseases of the urethra.
6. Malformations, injuries and diseases of the penis.
7. Anomalies, injuries and diseases of the scrotum, testicles, vas deferens and seminal vesicle.

The subject of the kidney and ureters, by Prof. Schede is one of the noteworthy chapters of this work, containing as it does the most recent surgical procedures, both operative and diagnostic, that have marked this field of surgery in recent years. The subject of the bladder and prostate is most admirably treated by Professors Nitze and Sonnenburg. This volume completes a system of surgery that is thoroughly comprehensive and is up-to-date in every department.

Text-Book of Practical Therapeutics,

With especial reference to the application of remedial measures to disease and their employment upon a rational basis. By Hobart Amory Hare, M.D., B.Sc., professor of therapeutics and materia medica in the Jefferson Medical College, Philadelphia. Tenth edition, enlarged, thoroughly revised and largely rewritten. Illustrated with 113 engravings and 4 colored plates. Lea Brothers & Co. Philadelphia.

The success of this work has been phenomenal, ten editions in almost as many years. It is valuable especially because the author has a happy faculty of selection from the vast amount of therapeutic literature. His advice in the treatment of the sick is plain and practical. Unfortunately in his revision of the list of drugs many recent synthetic drugs which have deservedly become popular are not even mentioned. The chapters on physical therapy might be extended somewhat. The revision makes this one of the best modern books in rational therapeutics and few physicians will dare to be without it.

Lea's Series of Medical Epitomes.

Series edited by V. C. Pedersen, A.M., M.D. Lea Brother & Company Philadelphia and New York.

Toxicology.

A manual for students and practitioners. By Edwin Wells Dwight, M.D., instructor in legal medicine, Harvard University. Price, \$1.00.

This is a most excellent manual for students. It gives the essentials of the important and very practical subject of poisoning. The properties of the drug, its toxic dose, the symptoms and diagnosis with chemical tests, the treatment are succinctly described. A very valuable feature is the addendum of illustrative cases to each section. Chapters on animal irritants, poisonous foods and ptomaines being the whole matter up to-date.

Physics and Inorganic Chemistry.

A manual for students and practitioners. By Alexins McGlannan, M.D., associate professor of physiologic chemistry and instructor in the clinical laboratory, College of Physicians and Surgeons, Baltimore, Md. Illustrated.

This remarkably comprehensive little work carries out in a very thorough manner the ideas maintained throughout the Pedersen series. It is possessed of almost text-book completeness.

Organic and Physiologic Chemistry.

A manual for students and practitioners. By Alexins McGlannan, M.D. Illustrated.

In no other field of research work are there so many and conflicting theories as in the domain of physiologic chemistry. It is well, therefore, for the student of medicine and the practitioner to be guided by one who has been able to select from them all the most recent and the most accepted. We have such a presentation in this splendid epitome.

Physicians' Visiting List.

Lindsay & Blakiston's for 1905, fifty-fourth year of its publication. Price, according to size, \$1.00 to \$2.25; also published in a perpetual and monthly edition. P. Blakiston's Son & Co., Philadelphia.

This attractive visiting list will be found entirely satisfactory. It contains a very fine dose table revised in accordance with the new (1900) United States Pharmacopeia.

"Medical News" Visiting List.

For 1905 contains blank pages for Thirty patients a week. Lea Brothers & Co., Philadelphia.

This popular visiting list contains dose table, therapeutic remedies, etc., which will be found very useful.

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The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 25 cents. The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

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INDEX TO VOLUME XXXI.

JULY—DECEMBER, 1904.

Original Contributions.

- Angioneurotic edema — George Gorin, St. Louis, 84.
- Aural practice, the use and abuse of the syringe in — Selden Spencer, St. Louis, 358.
- Baby incubators on the Pike, a study of the care of premature infants in incubator hospitals erected for show purposes—John Zahorsky, St. Louis, 345.
- Cholera infantum, modern treatment of—R. M. Sterrett, New York, 73.
- Climatology, its value to the student and practitioner of medicine—S. E. Solly, Colorado Springs, Col., 230.
- Colpeurynter, the use of the, in obstetric and gynecologic practice—George Gellhorn, St. Louis. 1.
- Eyestrain as a cause of migraine—W. A. Shoemaker, St. Louis, 379.
- Hernia, strangulated—J. Y. Brown, St. Louis, 86.
- Infection, an overlooked disseminator—E. A. Babler, St. Louis, 149.
- Knee-joint, excision of the—A. J. Steele, St. Louis, 281.
- Leukocyte count, the value of a differential, in the diagnosis of the diseases of infancy—John Zahorsky, St. Louis, 80.
- Mastoid antrum, useful anatomical landmarks as a guide to the operation for opening the—Selden Spencer, St. Louis, 145.
- Ovarian Cysts—A. H. Meisenbach, St. Louis, 154.
- Prostatic hypertrophy with obstruction, the modern treatment of—Arthur T. Cabot, Boston, 217.
- Puerperal sepsis, should a physician attending, continue his midwifery practice?—H. N. Chipman, St. Louis, 31.
- Scarlet fever treated with antistreptococcic serum — H. N. Chapman, St. Louis, 152.
- Senile chorea—W. L. Johnson, St. Louis, 28.
- Sutures, buried—E. A. Babler, St. Louis, 370.
- Trigone, the vesical, its anatomy and physiology—Byron Robinson, Chicago, 16.
- Typhoid fever, remarks on the surgery of—N. W. Sharpe, St. Louis, 300.
- Typhoid fever, the surgery of—W. W. Keen, Philadelphia, 288.
- Ulcer of the stomach and duodenum, surgical treatment of—W. H. Wathen, Louisville, Ky., 76.

Leading Articles.

- Appendicitis, treatment of, 240.
- Bilharziasis, 166.
- Blisters, the modus operandi of, 96.
- Collateral hemiplegia, 33.
- Eye diseases and diseases of the nervous system, 161.
- Foul breath, 239.
- International Congress of Arts and Sciences, 385.
- Malaria, daylight and, 163.
- Mind cure and mental therapeutics, 238.
- Neurasthenia, the partial passing of, 34.
- Pancreatitis, 305.

Patent medicine trade, the doctor and the 164.
 Pertussis, 157.
 Pyroplasmosis hominis, 242
 Quinin derivatives, 95.
 Serum therapy, etiology and, 157.
 Serum therapy of typhoid fever, 88.
 Silver antiseptics, 245.
 Tetanus, recent advances in our knowledge of, 94.

Editorial Comment.

Anesthesia, another method of general, 97.
 Animal Experimentation, 99.
 Animal instinct, 171.
 Antitoxin, Wassermann and diphtheria, 394.
 Appendicitis, Oshner treatment of, 250.
 Arts and sciences, congress of, 316.
 Atlantic City meeting, 36.
 Bacteriology, enthusiasm in, 98.
 Cancer research, 396.
 Cardiac paralysis following diphtheria, 396.
 Chronic dyspepsia, the surgical treatment of, 395.
 Colon-flushing habit, 169.
 Cork cells, 38.
 Cow to the baby, shorten the time from the, 101.
 Diabetes, exercise in relation to, 100.
 Dysentery group, 170.
 Ergot, 397.
 Health, effect of borax upon, 250.
 Heart disease as an obstetric complication, 100.
 Hernia, 35.
 Hydrastis, 396.
 Journal of the Missouri State Medical Association, 99.
 Laity, medical journals and the, 247.
 Malaria, suppression of, 170.
 Medical journalism, whither is, drifting, 248.
 Medical manufacturers and the laity, 246.
 Medical writers, 247.
 Neurological association, American, 315.
 Obstetricians and gynecologists, association of, 317.
 Osler, departure of professor, 248.
 Physicians and alcohol prescribing, 171.

Predisposition and infection, 98.
 Prognosis, its theory and practice, 37.
 Psychiatrists, American association of, 38.
 Respiration, another method of artificial, 96.
 Roentgen ray society, 317.
 Salt solutions, 168.
 Scarletina, surgical, 170.
 Seasickness, 97.
 Therapeutics, progress of physical, 249.
 Tuberculosis, Marmorek's serum in the treatment of, 100.
 Tuberculosis, serodiagnostic tests for, 101.
 Tuberculosis, the national association for the study and prevention of, 37.
 Typhoid fever, milk infection and, 395.

Medical Research.

Appetite, 319.
 Audition, colored, 319.
 Epithelium and corium, 319.
 Leukocytes, elimination by, 320.
 Pleura and intestine, 318.
 Spinal motor localization, 318.

Diagnostics.

Abscess, subphrenic, 102.
 Albumosuria, myelopathic, 171.
 Appendicitis, 104.
 Calculus, renal, 41.
 Cancer, uterine, 41.
 Erythema nodosum, 175.
 Gastric cancer, 253.
 Gastrodiaphane in diagnosis, 251.
 Glaucoma, 40.
 Heart disease, 43.
 Heart-sound, 174.
 Hernial ring, 103.
 Kidney, milking the, 42.
 Malaria, 172.
 Nails, the, 104.
 Nephritis of infants, 173.
 Palate reflex, 45.
 Pancreas, lesions of the, 104.
 Pancreatitis, 102.
 Pleural effusion, 40.
 Poliomyelitis, 41.
 Puerperium, 253.

Pyorrhea alveolaris, 252.
Rectum and anus, diseases of, 251.
Renal capability, 173.
Spotted fever, 175.
Suppuration, 103.
Tumors, abdominal, 43.
Urine, uric acid in, 44.
Uterine diseases, 42.
Xanthoma, 253.

Therapeutics.

Addison's disease, 182.
Antidysenteric serum, 45.
Antipyrin, administration of, 184.
Antipyrin, curious effect of, 106.
Arthritis deformans, 254.
Bronchopneumonia, 105.
Camphor as an anesthetic, 258.
Diarrhea, chronic, 397.
Dropsy and obesity, 181.
Exodin, a new cathartic, 107.
Hemoglobin as an hematinic, 182.
Hyperpyrexia in measles and scarlet fever, 399.
Hypnotics per rectum, 401.
Lobar pneumonia, 176.
Lumbago, 178.
Menthol, aqueous preparations of, 257.
Nephrolithiasis, 400.
Organotherapy, 46.
Phthisis pulmonalis, 256.
Pulmonary edema, 46.
Serous effusions, 180.
Splenectomy, 183.
Syphilis, 401.
Tetanus, 47.
Yeast in erysipelas, 258.

Correspondence.

Pneumonia epidemic, 50.

Society Proceedings.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

Aneurism, 59, 110.
Appendicitis, 185.
Appendicitis, suppurative, 109.
Appendix, the, 111.
Artery, calcification of the coronary, 109.

Calcification of aorta to bifurcation of the iliac, 109.
Carcinoma of the cervix uteri, 112.
Climatology, 259.
Colpeurynter, the, in obstetric and gynecologic practice, 52.
Deltoid muscle, paralysis of, 110.
Kidneys, diseased, 113.
Kidney, horse-shoe, 109.
Ovarian cysts, 185
Prostatic hypertrophy, 267.
Syncephalus monoprosoopus, 321.
Typhoid fever, 321.
Ureter, dilatation of, 110.
Uterus bicornis, 113.

Reports on Progress.

Abdominal operation, 125.
Albuminuria, functional, 403.
Aneurism of the innominate, 402.
Anemia, pernicious, 119.
Antitetanic serum, 121.
Brain, tumors of, 127.
Bullets, wounds from, 123
Calculus, prostatic, 335.
Cardiac rhythm, 116.
Cerebrospinal meningitis, 332.
Cystitis, postoperative, 199.
Epilepsy, surgical treatment of, 128.
Epileptic automatism, 128.
Gastroenterostomy, 122.
Headache and storms, 127.
Iodism, prevention of, 336.
Knee-joint, resection of, 333.
Laparotomy, foreign bodies left after, 125.
Leukemia, 404.
Leukemia, splenomedullary, 404.
Lupus, 336.
Meningitis, tuberculous, 192.
Myocarditis, 403.
Nervous troubles, 129.
Neuritis, optic, 126.
Pericarditis, 195.
Pyloric sphincter, 200.
Reflexes, 130.
Resuscitation, 126.

Scarlet fever, 194.
 Shock after bleeding, 201.
 Spinal cocainization, 193.
 Spleen, disorders of, 331.
 Syphilis, preventive treatment of, 336.
 Thoracic aneurisms, 117.
 Tumor, intradural, 124.
 Typhoid perforation, 123.
 Vento suspension, 333.
 Vomiting, postoperative, 201.
 Water, germs in drinking, 115.
 Worms, lumbricoid, 198.

Biographical Sketches.

Boisliniere, Dr. L. Charles, 278.
 Clemens, Dr. James W., 203.
 Hodgen, Dr. John T., 279.
 Smith, Dr. Elsworth F., 203.

Obituary.

Prewitt, Dr. Theodore F., 338.

Book Reviews.

Alkaloidal therapeutics, 341.
 Diagnosis, medical, 64.
 Doctor's recreation series—
 Doctor's leisure hour, 135.
 Doctor's red lamp, 343.
 Electrodiagnosis and electrotherapeutics, 343.
 Fever nursing, 64.
 Histology, Durham's normal, 206.
 International clinics, 63, 132.
 Lea's series of medical epitomies—
 Nervous and mental diseases, 341.
 Physics and inorganic chemistry, 407.
 Physiologic chemistry, 407.
 Toxicology, 406.
 Surgery, 342.

Materia medica and pharmacy, 62.

Medicine series of year books—

 General medicine, 133.

 Gynecology, 204.

 Obstetrics, 133.

Metabolism and nutrition, 341.

Mother's manual, 134.

Perverts, 64.

Physician's blue book, Minnesota, 64.

Physician vs. bacteriologist, 133.

Physiologic chemistry, Simon's, 405.

Physiology, human, 339.

Practical therapeutics, 406.

Radiotherapy, phototherapy and high frequency currents, 342.

Social disease and marriage, 205.

Surgery, von Bergman's, 62, 204, 340, 405.

Visiting list, Blakiston's, 407.

Visiting list, "Medical News," 407.

Visiting list, perpetual, 61.

Women, diseases of, 339.

Notes and Items.

Blastomycosis, 330.
 Calomel in tuberculosis, 208.
 Kernig's sign, 304.
 Lecithin and rats, 208.
 Los Angeles medical journal, 51.
 Morphin, action of, on gastric secretion, 208.
 Pan-American congress, 207.
 Scarlet fever, bacteriologic examination of the blood in, 51.
 Smallpox and pregnancy, 277.
 Thrombophlebitis, postoperative femoral, 87.
 Trunccek's serum, 131.
 Turpentine in inflammation of the stomach, 131.
 Uterus, accidental perforation of the, 384.

CLINICAL NOTES.

Uric-Arthrin.

By M. Yarnall, M.D., St. Louis.

Clinical observation prompts me to desire to recommend Uric-Arthrin. It is a remedy for rheumatic patients, be the form, articular, muscular, or any of the various aches or pains, of a grippy or malarial nature, more or less akin to rheumatism or myalgia, including all those dependent on what is termed a uric acid diathesis.

Superfluous would be a discussion of the etiology of any of these forms or varieties of aches and pains whether dependent on a uric acid diathesis or any other cause, what I desire is to make a very concise clinical report, after a brief course of observations in a few cases that recently have come under my observation, they have made so favorable an impression that I have determined to report them, trusting that it will lead others to try an agent that I believe will prove valuable in rheumatism, gout, sciatica, lumbago and general lithemic conditions.

Case 1.—Mr. B., aged 30 years; general articular rheumatism, acute and not yielding to alkaline or any treatment that I adopted until I had almost exhausted my resources. Two bottles of Uric-Arthrin, following the general directions, completely relieved this obstinate case, the patient is now well.

Case 2 —A lady, aged 45 years; recurring sciatica. Used various remedies without success. Gave Uric-Arthrin, three bottles used, improved from beginning of treatment, entirely relieved.

Case 3.—Child, aged 7 years; articular rheumatism, following scarlet fever benefitted at once, one bottle used, cured.

Case 4.—Adult male, aged 29 years; aches and pains following grip, relieved at once by use of Uric-Arthrin after other treatment failed.

I may say in conclusion, I am prescribing this remedy in all cases indicating its use as suggested above and will continue to do so as long as I obtain as favorable results as I have thus far, and I sincerely recommend its use when indicated.

Hot Weather Hints.

In dusty, windy weather a thin sheet of cheese cloth stretched across an open window and kept moist with Platt's Chlorides, diluted with ten parts of water keeps out disease laden dust and assists in maintaining pure air in the sick-room.

A towel or sheet similarly moistened if frequently wafted about the sick-room and then hung up will cool and purify the air by liquid evaporation and chemical absorption.

"Platt's Chlorides" is an odorless, colorless, liquid; a powerful disinfectant and prompt deodorizer, and is endorsed by over 23,000 physicians. It is sold everywhere by druggists in quart bottles only, and manufactured by Henry B. Platt, New York.

Danger From Impure Milk.

The high infant mortality in all parts of this country and particularly in large cities has caused some interesting investigation of the milk supply.

In Baltimore, Bassett and Knox examined a large number of samples of milk supplied to babies in hospitals and found an average bacterial content of over four million to the cc. The New York Board of Health found many samples last summer running ten millions to the cc. A few years ago at Stamford, Conn., over four hundred cases of typhoid fever developed in families supplied from a single dairy. These are but a few instances of the grave dangers to which infants as well as adults are subjected.

For obvious reasons cow's milk must be the principal substitute for mother's milk when from any cause the child can not be fed at the breast. It must also constitute an important part of dietary of breast-fed children after they are weaned. It has been well established that the number of cases of cholera infantum and allied conditions in a community decrease in direct proportion to the purity of the milk supply. In the highland brand evaporated cream the physician will find an absolutely pure milk which can be modified to meet every indication. It is simply full cream cow's milk evaporated and sterilized by a special process which improves its di-

gestibility and insures an excellent flavor. It is manufactured under the strictest supervision and is absolutely germ-free. It is the simplest, yet most complete food for infants not nursed at the breast.

Good and Seasonable.

A word about some remedial preparations which the busy practitioner will find always useful, particularly at this season of the year, will no doubt be of interest. First, we will mention the old time-tried antikamnia & salol tablet, so useful during hot weather, when even the "grown folks" load up their stomachs with the first offerings of the season. Hare says: "Salol renders the intestinal canal antiseptic and is the most valued drug in intestinal affections." The anodyne properties of antikamnia in connection with salol render this tablet very useful in dysentery, indigestion, cholera morbus, diarrhea, colic, and all conditions due to intestinal fermentation. Then the the "triple alliance" remedy so well and favorably known by its self-explanatory title, namely: "Laxative Antikamnia & Quinine Tablets." To reduce fever, quiet pain, and at the same time administer a gentle tonic-laxative, is to accomplish a great deal with a single tablet. Among the many diseases and affections which call for such a combination, we might mention coryza, coughs and summer colds, chills and fever, biliousness, dengue and malaria with their general discomfort and great debility.

We can not overlook our old friend the antikamnia & codeine tablet. The efficacy of this tablet in neuroses of the larynx is well known, but do all of our Doctor friends know that it is

especially useful in dysmenorrhea, utero-ovarian pain and pain in general caused by suppressed or irregular menses? This tablet controls the pain of these disorders in the short time and by the most natural and economic method. The synergetic action of these drugs is ideal, for not only are their sedative and analgesic properties unsurpassed, but they are followed by no unpleasant after-effects.

Enuresis, Gleet and Irritable Prostate.

Dr. N. S. Wood, Anderson, Ind., says, "I find that Satyria a most excellent tonic and reconstructive remedy. I find it very useful in children's diseases, especially in enuresis it is fine. Have also found it very useful in gleet and irritable prostate."

Safe, Certain and Prompt.

Dr. A. H. Ohmann Dumesnil, under date of June 1, 1904, writes as follows:—There are numerous occasions when resort to a Hypnotic becomes a matter of imperative necessity, and in the choice of such remedy several points of interest present themselves for consideration by the conscientious prescriber. Such a preparation must be *safe, certain and prompt*. In many cases it is demanded that it must also *relieve pain*.

Believing that a haphazard selection of a Hypnotic with which to meet a multitude of conditions causing insomnia is no more admissible than random prescribing for any other serious pathologic state, I have made a somewhat careful study of the various preparations of this kind in the market.

A consideration of the formula presented by the Tilden Company under the name Narkogen convinced me that

it should perfectly meet the various demands upon a perfect Hypnotic described above, and a trial of this remedy further convinced me that Narkogen is a step in the direction of definite therapeutics for conditions which need definite diagnosis and treatment as much as any other.

Narkogen, consisting as it does of

Chloral hydrate,	gr. x
Potass. bromide,	gr. x
Hyoscine hydrobromate,	gr. $\frac{1}{200}$
Narkine (Tilden's)	gr. ss.

to each fluid dram, will, of course, have a wider range of usefulness than as a mere Hypnotic. It is decidedly Anodyne, relieving pain promptly. It exerts a prompt Anti spasmodic action and is unsurpassed as a Nerve-sedative. It is Antiphlogistic, exercising a powerful influence upon both the vasomotor and general circulation. Its various component parts are synergetic and each enhance the action of the other, all tending in the direction of quiet nerves, quiet circulation, oblivion to pain and mental distress and the allaying of nervous erethism.

For the benefit of readers who do not know what Narkine is, it is a very superior opium preparation from which all deleterious qualities have been eliminated. It gives a dominant tone to this rational and effective preparation which will amply satisfy any physician who will give it a trial.

Nutrient Enemata.

The *Virginia Medical Semi-Monthly* of a recent date publishes a most interesting article by Dr. Hickling under the above heading.

"Nutrient Enemata," the writer states, "are indicated in severe cases

of acute gastritis, in chronic gastritis, in gastric ulcers, hemorrhages of the stomach, excessive vomiting, in paralysis of the esophagus, in stricture of the esophagus, in surgical operations upon the liver and gall-bladder, in cancers of the stomach, where it may be located, and in obstructions of the bowels until operative measures may be undertaken to remove the cause. It is one of the best methods in my judgment of treating all cases of laparotomy during the three or four days following operations."

Preparatory measures in these cases are most important, the lower bowel should be thoroughly cleansed with irrigation of some mild saline antiseptic solution, such as Glyco-Thymoline which has been found to be a most valuable adjunct not only washing away all excreta, dissolving any accumulated mucus, relieves any inflamed condition of the membrane, stimulating the flow of normal secretion, but by increasing the capillary action, prepares the membrane for prompt absorption of the liquid food. In this connection comes the interesting report of a case occurring in the practice of F. E. Card, M.D., of Providenc, R. I., in which it was necessary to resort to rectal feeding. The Doctor states: "My patient was greatly troubled with the distressing symptom of tenesmus which I found was entirely relieved after irrigating with a 10 per cent solution of Glyco-Thymoline administered by the aid of an 18-inch rectal tube. The membrane was cleansed, soothed and prepared for the absorption of the Nutrient Enemata. I found this to be the ideal way to treat cases of cancer and ulcerations of the stomach. In

these cases I generally use gastric lavage of Glyco-Thymoline in 10 per cent solution. This method of feeding rests the stomach and keeps up the nourishment."

A Word of Encouragement.

W. L. Duff, M.D., Harrisburg, Pa., says, "Knowing that a word of encouragement sometimes is very gratifying allow me to say, I used Satyria on a patient who has had difficulty in urinating for twenty-five years. He told me that he considers himself practically well and has no trouble at all now."

Enterocolitis and Cholera Infantum.

Cleanse the intestinal tract with calomel and a saline or with castor oil. Prescribe a suitable diet, easily digested and non-irritating. Irrigate the rectum and colon at suitable intervals with normal salt solution or some mild antiseptic, using for the purpose a soft rubber catheter or colon tube.

Instead of opiates, which lock up the secretions and thereby favor auto-intoxication, relieve the muscular rigidity and the excruciating pain which is such a drain upon the vital forces, by the use of Antiphlogistine as hot as can be borne to the entire abdominal walls and covered with absorbent cotton and a compress. If the patient is not too far gone, the effect will be astonishing. The little sufferer, who until now has been tossing in agony and restlessness, with drawn features, will in most cases quickly become quiet; the drawn look will leave the face and a restful slumber will often supervene and start him upon the road to recovery.

The explanation of this, in part, is

not far to seek. The heat and moisture combined with Atiphlogistine's well known hygroscopic properties, directly soothe the inflamed parts, reflexly contracting the visceral blood-vessels and relieving their engorgement. The tension of the muscular and nervous systems is further relieved by the action of Antiphlogistine through the solar plexus thus adding to and emphasizing its local effects upon the inflamed intestines.

A Bete Noir.

Cases of eczema often prove, for the time being, the "Bete-noir" of the physicians life, the erythema, the papules, vesicles or pustules singly, or a combination of all these lesions in their various forms or degrees, with more or less infiltration and intolerable itching, followed by desquamation, discharge or formation of crusts, coming in crops and with a persistence that seems unyielding, leads us to welcome an agent so admirable as "Germiletum" (Dios), which relieves the itching and irritation almost instantly, and with proper internal treatment, the majority of cases of this almost invertebrate disease will be entirely eradicated. Dr. M. Yarnall, 3707 Finney Av., St. Louis, Mo.

Cystitis.

S. Monroe, M.D., Crystal, Mich., says, "I have used Satyria in cystitis and find it very good."

Pennsylvania Pronounces it Whole-some.

Recently a direct effort was made to frame legislative measures which would presumably exclude Vin Mariani from sale in the State of Pennsylvania. The

State Board of Health promptly took up the problem. They employed two of the most prominent chemists of Philadelphia, namely, Professor Samuel P. Sadtler and Dr. F. A. Genth, who, after critical analyses of Vin Mariani, made from purchases of their own selection, failed to find pure cocaine in demonstrable quantity. This not only refutes the absurd falsity of suspicion that any alkaloid is surreptitiously added to the wine, but confirms, in the most convincing manner, the results of numerous former analyses made by the Governments of France, Germany, Russia, and also in the United States. Each of these analyses admits the absolute purity of of Vin Mariani as a preparation of true Coca leaves in a sound and nutritious French wine. As the Pennsylvania State Board of Health officially expresses it: "Vin Mariani is not a cocaine preparation, but a wine possessing the aromatic and desirable qualities of fresh Coca leaves."—*The Coca Leaf*, November, 1903.

When Your Case is Weak Abuse the Other Side.

This maxim has been a favorite standby with the legal profession from time immemorial.

The impudence and effrontery with which these people try to hoodwink the medical profession is rather remarkable.

No other preparation ever came before the medical practitioner with so little detail as to methods of preparation, composition, therapeutic effect, etc., etc., and nevertheless the profession is asked to accept the wildest and most extravagant statements as to its wonder-working capabilities.

This is not all. The makers of this preparation, in seeking the support of the profession covertly attack and sling mud at all other iron preparations that have been before the profession for years. They single out Pepto-Mangan, a combination which has stood the tests of the leaders in the scientific medical world both here and abroad, an organic iron combination in which, in its results, the general practitioner and the hospital clinician have learned from experience to place implicit confidence.

This unbusinesslike method of attempting to cast discredit upon other reliable and thoroughly tested combinations we can not term otherwise than despicable, and furthermore we know our readers can not be influenced by unsupported statements of financially interested parties, but will always bear in mind that Gude's Pepto-Mangan was submitted to the profession as an organic iron product, and the results obtained by its use, as also the scrutiny of analysis by chemists of repute, substantiate all that has ever been claimed for it.

Attempting to foist upon the attention of the physician a product simply by insinuation that known articles are inferior, is a manner of doing business which should receive the stramp of disapproval by every one of our profession.—*Toledo-Medical and Surgical Journal*.

A Sheet-anchor.

I have been thinking for some time of adding my testimony to the virtues of Dioiburnia and Neurosine, both of which I have tried to my entire satisfaction; they are certainly a "sheet-anchor," so to speak.

Ladies who suffer mostly on or just about the approach of menstruation, especially those of a very nervous disposition, with hysterical and despondent periods, the two combined make a No. 1 recipe. I shall always prescribe them in my practice.

Dr. J. P. Carrington, Waller, Texas.

Superior Remedy of its Class.

Dr. Wm. B. Mann, Evanston, Ill., says: Your Satyria is a superior remedy of its class. It has given me much satisfaction in a case of cystitis and urethritis; Satyria did good work. It was a pretty bad case and had been treated by others without much benefit; I cured the patient in a week. I think Satyria is all right.

A Rare Bargain.

Combination Battery.

We have a number of these batteries, which are intended for the general practitioner. Gives faradic and galvanic current for treatment. Illuminates diagnostic lamps, also do all ordinary cautery work. The principal recommendation and one in which it excels all existing models, is that it will do this work perfectly, having advantage of being portable. Weight 15 pounds. Dimensions 12x9x8 inches. If directions for its use are followed, we guarantee it will do the specified work without fail.

Regular price, including sponge, grip, electrodes, cords and one diagnostic lamp-cord, \$30.00. We offer same for \$20.00, express prepaid.

Address, Courier of Medicine Company, 2940 Locust St., St. Louis.

CLINICAL NOTES.

Chorea and Anemia.

By Roshier W. Miller, M.D., Ph.G.
Barton Heights, Va.

In the etiology of chorea, nothing is noted relative to anemia. It is simply accounted as an accompanying symptom of the condition. Medical literature emphasizes the relation between rheumatism and chorea, with anemia as an important symptom. After observation of several cases, I am strongly of opinion, however, that anemia as a causative factor is worthy of investigation.

Anemia of toxic origin presents pathological conditions which favor the production of choreaic affections. It is true that simple anemia is, as a rule, of secondary origin, and, viewed in this light, it may be argued that if chorea arises, it is the result of the primary and not of the secondary conditions—thus agreeing with the admitted etiology. This argument, however, will not satisfactorily explain those cases of chorea which arise remotely from the primary condition, but recently from the secondary effects.

I submit three cases in which symptoms, treatment, and recovery seem to intimate at least a possible relation between anemia and chorea.

CASE I.—A female child of eight

years gave a history of typhoid fever eight months prior to my visit. According to the mother's statement, the child had made a quick and good recovery, gaining rapidly in weight and exhibiting the energy of her former life. Six months later she became irritable and pale, with pain in her arms and legs, which condition was soon followed by gastric disorders and irregular spasms of the muscles of the face.—Simple anemia was in evidence from objective and subjective symptoms alone, but was unquestioned in the light of the results obtained from blood examination—the red blood element being present to the extent of barely 3,000,000 red corpuscles per cm.

This case was treated with two teaspoonfuls of Pepto-mangan (Gude) and two drops of Fowler's solution, three times a day. After gastric symptoms abated somewhat, two raw eggs per day were added to the diet. The patient was discharged in five weeks, completely recovered.

CASE II.—A female child of ten years of age; gave history of malaria, a well-defined case of intermittent fever, one year previously. The pallid condition of the child induced the mother to solicit my aid. Upon examination I found slight choreaic movements which had escaped the mother's eye,

though she did admit that the child "could not sit still very long at a time," and "was constantly working her fingers." The blood examination revealed no plasmodium. The red cells were reduced to 2,800,000 per cm. with a proportionate decrease of hemoglobin.

Pepto-mangan (Gude) alone was employed in doses of two drams in a glass of milk three times a day. The blood examination four weeks later showed red cells present to the amount of 3,900,000 per cm., at which time I dismissed the case completely recovered.

CASE III.—A female child of thirteen years. Two months before my visit, mother informed me, the child became peevish and pale, and was reproved at school for her inability to write neatly. She was taken from school, but she grew rapidly worse. Morning nausea, vomiting, headache, and anorexia were her daily companions. I found her with pronounced hysterical spasm, with involvement of the upper and lower extremities. Hemic murmurs were plainly apparent, but no endocardial irritation could be determined. The blood count showed reduction in red cells to 2,100,000 per cm. The hemoglobin was reduced to a degree greater than the red cells.

A curious feature of the case was the morning nausea. Immediately upon awakening, she experienced nausea, which was followed by vomiting. I discovered, however, that this condition was superinduced by odors from the kitchen, and directed that a small sponge, moistened with creosote water be placed over the nose and mouth before the preparation for breakfast began. The an-

noying symptom was promptly checked by this simple method. The anemia in this case may have been produced by malnutrition, but even this view is mere speculation.

The irritability of the stomach in this case was so pronounced that I did not deem it wise to give nourishment—not to speak of medicine—by the stomach. During the first four days rectal alimentation was employed. A nutritive enema, consisting of four ounces of peptonized milk and two drams of Pepto-mangan (Gude), was given every six hours. Small amounts of peptonoids with creosote on ice were given by the stomach. Egg albumin was taken in all the water she drank. After four days, the stomach was tested with small amounts of milk and Pepto-mangan (Gude). Beginning with four ounces of milk and one dram of Pepto-mangan (Gude) every four hours, the amounts of each were rapidly increased, until after three days the patient was taking eight ounces of milk every two hours and four drams of Pepto-mangan (Gude) three times a day. This diet, plus three raw eggs a day, together with the above treatment, was all that was employed for six weeks. The blood examination at this time showed a highly gratifying condition—the red cells being present to the extent of 4,100,000 per cm. The bloom of youth once more tinted the cheek, and the shrine of St. Vitas lost a visitor.—*Virginia Medical Semi-Monthly*, May 13, 1904.

Inflamed Eyes.

Palpebrine is the finest preparation for inflamed eyes I have ever used.

Dr. H. G. Isenberg, Tea, Mo.

Irregular Menstruation and Treatment.

By E. C. Willey, M.D.,
Louisville, Ky.

Practitioners of medicine are consulted by no class of patients who display greater solicitude than those who have amenorrhea.

In the popular mind failure of the menses to appear is supposed to be due to pregnancy or tuberculosis, and either may cause a degree of anxiety that is truly intense.

The term amenorrhea is used to mean the total absence of the menstrual discharge, or a marked deficiency in the quantity of the flow. Amenorrhea may be physiological or pathological. During pregnancy the absence of the menstrual discharge is, of course, physiological and commands no consideration in this article. When pathological, the causes of amenorrhea may be said in general to be due to the following:

(1) Taking cold, at or near the menstrual epoch. (2) Severe mental perturbation as fright, sorrow, or great elation of spirit. (3) It may be symptomatic in several affections, as tuberculosis, anemia, chlorosis, syphilis, typhoid fever, nephritis, pelvic peritonitis, and other morbid conditions. (4) Obesity. (5) Luxurious life, or overtaxing the nervous system. (6) Stenosis or atresia of the cervical canal, or imperfect development of the tubes, ovaries or uterus. (7) Vicarious menstruation may make the condition obscure, there being a discharge at the regular monthly periods from the nose, lungs, bladder, stomach, nipple, or other part.

The treatment must, in a word,

comprehend remedies and measures which are indicated by the etiological factors present in every case which comes up for treatment. When the amenorrhea is caused by having contracted cold, the patient should have a warm sitz bath, and hot applications should be applied to the abdomen and thighs. Often a hot vaginal injection will serve a most useful purpose, and a laxative, preferably a saline, will greatly aid in bringing on the flow.

When amenorrhea is associated with syphilis, the uric acid diathesis or morbid condition must receive correct treatment. My experience with Ergoapiol (Smith) is such that I regard it as an indispensable remedy in all expressions of amenorrhea along with proper remedies for any diseased condition in the causation of the affection. Of course, those cases where the amenorrhea is due to atresia of the cervical canal, and to any other condition which is remedial only by surgical means, drugs will prove of no avail. The same can be said of instances in the amenorrhea due to a rudimentary state of the female organs of reproduction.

A lady some time ago brought her daughter to my office for treatment of amenorrhea. The girl was 18 years old and was visibly anemic. She had an indifferent appetite and was more or less dispirited. She had enough menstrual flow each month to stain the napkin, but this was all that could be said. I had this patient to take Ergoapiol (Smith), one capsule after each meal, and on going to bed regularly for a month. At the next menstrual period the discharge was without pain and free, and the quantity and color was as natural as she had ever known her

menstruation to be. She took Ergo-apiol (Smith) in the same way another month, and then ceased to have any further trouble. Her color is good and her appetite is likewise excellent; she is full of spirit, and, in a word, well.

Mrs. A. P. L., aged 35. This lady suffered with frequent attacks of headache, had backaches nearly all the time, and suffered greatly with vertigo. She was the mother of three children, the youngest being 6 years old. For the past four years she had constantly had scanty menstruation and the blood was very pale. She rarely had the menstrual flow to continue longer than fifteen hours. I was satisfied that the vertigo and all her distress was due to insufficient menstrual flow, and I accordingly put her on Ergo-apiol (Smith). She took it through the month, one capsule after each meal; but for a week before the expected period she took two capsules instead of one. She was greatly pleased this time to have a full and free menstruation. Acting on my advice, she took the capsules three times daily for two months, and this acted in a happy manner and she has now passed an entire year and has not failed to menstruate freely.

My diagnosis was fully confirmed by this woman's health being good in every way since the establishment of menses on a basis of health.—*Southern Practitioner*, July, 1902.

Cystitis and Impotency.

Dr. E. Barlow, Willow Hole, Texas, says, "I have had very beneficial results from the use of Satyria, in cystitis and impotency."

Hay Fever.

For years the malady known as hay fever has been the theme of many an able discussion. Its etiology, pathology, prophylaxis and treatment often have been the subject of study and experiment by physicians, and also by intelligent laymen. The disease has been described as a catarrhal affection of the conjunctivæ and the mucous membrane of the respiratory tract, characterized by an annual recurrence at about the same date in a given case. Another view is that the disease is a neurosis, and that the local symptoms (rhinorrhea, sensory disturbances, etc.) are due to vasomotor paralysis.

The most conspicuous symptoms of hay fever are a burning and itching in the nasal region and between the eyes; violent paroxysms of sneezing; a copious discharge of serum and liquid mucus from the nasal passages; profuse lachrimation; now and then, febrile manifestations; frontal headache; and in not a few cases, some asthma.

The diagnosis having been established the subject of prevention and treatment is of the utmost importance. It would be utterly useless and wearisome to attempt to review the list of remedies and the methods of treatment that have been proposed for this disorder. The interests of physicians and patients will best be served by a recital of facts respecting the most successful mode of treatment known at this time.

A glance at the list of symptoms and a brief consideration of the pathology of hay fever lead to the immediate conclusion that the chief indications are to check the discharge,

allay the irritation that gives rise to the paroxysms of sneezing, reduce the turgescence of the nasal mucosa and relieve the stenosis. The only single remedy that meets these indications is Adrenalin as represented in Solution Adrenalin Chloride and Adrenalin Inhalant. By stimulating the vasomotor supply it contracts the arterioles, and thus promptly and efficiently relieves all the annoying symptoms referable to vasomotor paralysis. By its powerful astringent action upon the mucous membrane, which it blanches completely in a few moments, it controls symptoms referable to a catarrhal inflammation of that structure. Indeed the results that have been accomplished with Adrenalin in this field alone are really remarkable and of the utmost importance. Parke, Davis & Co., who market Solution Adrenalin Chloride and Adrenalin Inhalant, have prepared a very complete treatise on the topic, which contains more information than is to be found in the average text-book. They will cheerfully mail a copy of the booklet to any physician applying for it.

What is There in a Name?

It enables the Doctor to indicate positively the product that he would prescribe, having confidence in his Druggists, that his prescriptions will be filled only with the identical drug. Why is it so important that the Doctor should designate plainly the name of such Product? That the Druggist may not exercise his own judgment or confound such name with those similar, which he may think is "just as good." Why is a name trade marked? For the protection of the Doctor, as well as the manufacturer. Why is there such similarity in the name of some Products which frequently confuse the Doctors as well as the Druggists? Be-

cause unscrupulous Manufacturers try to reap the benefits of the established trade-marked name of Products already recognized by the Profession as being the Standard and Most Efficient in the cases for which they are indicated. Have you not, Doctor, prescribed Neurosine as a Neurotic, Anodyne and Hypnotic, and continued its use because you have obtained satisfactory results? Taking this for granted, when a Product of similar name is presented to you, is it not well to consider the intention of the manufacturer of such Product in adopting a name so near like that of Neurosine, without becoming liable for infringement of such trade-mark? Do you, Doctor, think this honorable? For instance the name Neurosine (trade marked over 20 years) is well known to the Profession, and a very large demand has been created in consequence of its efficiency, wherever a Neurotic, Anodyne and Hypnotic is indicated. Should such Products which follow in the wake of Neurosine or other Standard Products, in consequence of similarity of name, be countenanced by the Medical Profession, where it is clearly evident that the manufacturers are attempting to do business on the well earned reputation of Neurosine. Should the Doctor countenance any product of which the formula has not been freely circulated to the Profession? Most positively no. The Code of Ethics, which every regular practitioner recognizes, discourages the patronizing of "secret" remedies. Neurosine contains no Opium, Morphine, Chloral or other deleterious drugs.

Out-Door Sports.

Bruises, sprains and abrasions consequent upon tennis, golf, mountain climbing and other out-door sports are prevalent at this season. Infected wounds are frequent and disabling. Country life also brings the results of contact with poison-ivy, poison-oak

and the various venomous insects with their characteristic weapons of offense. In all these cases the physician's first thought should be Antiphlogistine. It reduces inflammation of all sorts better and more quickly than any other application, while for poisoned wounds and dermatitis venenata it is almost a specific.

Cocaine is Not Coca.

Vin Mariani was used by the profession fully 20 years before cocaine was known in medicine. In fact, through this preparation physicians were made familiar with the properties of Coca, and this was the original and only available form of employing the remedy. The popularity of Vin Mariani has led imitators to foister upon the profession artificial substitutes concocted by adding cocaine to wine. Such base frauds masquerading as Coca Wine—a title originated by M. Mariani—have done great evil and tend to unjustly cause condemnation of all Coca preparations as but false products.

Evils resulting from substitution and imitation of Vin Mariani, and the abuse occasioned by the false concoctions, have led to the introduction of State laws restricting the sale of cocaine and of cocaine preparations. Mariani & Co. are heartily in accord with such humane legislation, and as manufacturers of the standard and original Coca Wine, urge official analysis of their preparation as testimony of the confidence reposed in them by the Medical Profession who have long recognized the worth of Vin Mariani, and who continue to prescribe it. It is but just to emphasize these truths and explain the difference between a true Coca Wine and base and danger-

ous impositions fortified by adding free cocaine.

Punton Sanitarium.

Dr. John Punton, Superintendent of the Punton Sanitarium or Home for Nervous Invalids at Kansas City, Mo., is adding a large addition to the Sanitarium building in response to an increased demand for accommodations by patients. There is also being built a large extension to the verandas, which will be used by the guests for places of recreation. The management of the Sanitarium appreciates the support received from the medical profession and has great confidence in the continued success of the institution.

A Rare Bargain.

Combination Battery.

We have a number of these batteries, which are intended for the general practitioner. Gives faradic and galvanic current for treatment. Illuminates diagnostic lamps, also do all ordinary cautery work. The principal recommendation and one in which it excels all existing models, is that it will do this work perfectly, having advantage of being portable. Weight 15 pounds. Dimensions 12x9x8 inches. If directions for its use are followed, we guarantee it will do the specified work without fail.

Regular price, including sponge, grip, electrodes, cords and one diagnostic lamp-cord, \$30.00. We offer same for \$20.00, express prepaid.

Address, Courier of Medicine Company, 2940 Locust St., St. Louis.

CLINICAL NOTES.

CATARRH:

NASAL, POSTERIOR-NASAL AND PHARYNGEAL.

By A. W. LATIMER, M.D., St. Louis, Mo.

Late Physician to the City Hospital.

Catarrh has assumed such proportions that every practitioner of medicine must necessarily equip himself to meet the increasing and onward march of this tenacious disease.

Catarrh seldom abates after a few acute attacks to an extent that the sufferers will relinquish the treatment instituted, more especially if they find relief from its use—the treatment should always be altered to suit the different stages.

Catarrh permeates every phase and grade of life from the hovel to the palace and in every clime, more troublesome at certain seasons of the year, however.

Acute catarrh and acute rhinitis or coryza, due most often to a slight cold, is usually the beginning of the tenacious chronic catarrh.

Inhalations of hot, dry air—irritating vapor, dust and the emanations of certain drugs, are other sources of acute coryza.

Predisposition is an important factor in masses—some persons being affected by the least exposure to any of the exciting mediums.

Children are particularly subject to it; while the aged enjoy comparative immunity. A scrofulous taint seems to render the mucous membrane susceptible to frequent attacks and, in persons of rheumatic diathesis, it is often present.

It occasionally appears as an epidemic through atmospheric perturbation.

If seen early an attack of acute catarrh can generally be cut short. If severe, the patient should be kept in a warm room and small doses of tincture opii deodor. frequently administered internally, and the nose and throat gently flushed with

Germiletum,

Aq. dest. aa ℥iv
M. Ft. sol. Sig. Use
in an Acme atomizer
every two hours.

There are so many mild cases that require only the spray as above directed, and the severer forms I have found do infinitely better with this spray than with any other application—unguentum, powder or spray.

The spray can be used with Germiletum alone if the mucous surface is not overly sensitive. Germiletum is an astringent antiseptic—stimulating to the vasomotors of the membrane antagonistic, the vasomotor paresis, thus counteracting the vascular engorgement and the transudation. It is very serviceable

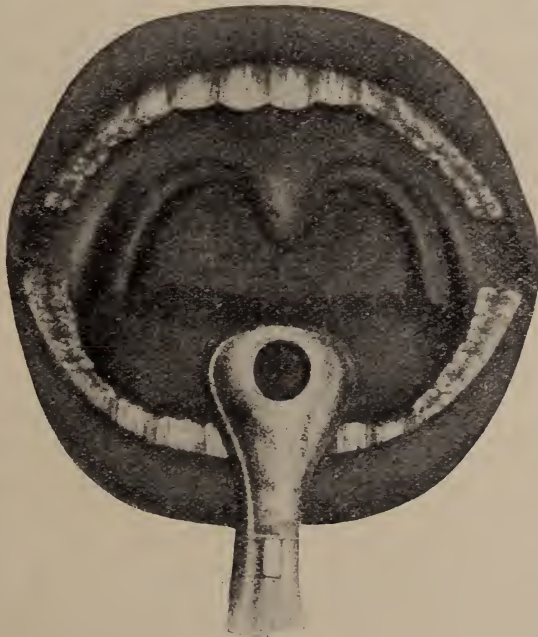


FIGURE I.

Normal Condition of the Throat

throughout the affliction in all stages.

Simple chronic rhinitis, chronic nasal catarrh, chronic coryza and chronic inflammation of the nasal mucous membrane are generally the result of repeated acute attacks. The success of the treatment depends greatly upon the proper recognition

of the cause of the trouble in each individual case.

Cleanliness is of prime importance, especially when the affection is due to local irritation by extraneous matter, but great circumspection should be used in selecting the proper instrument. A too powerful stream would act as a local irritant and while performing its office as a cleansing agent would increase the inflammatory process and encourage hypertrophic changes. The atomizer is undoubtedly the best instrument for the purpose, provided its spray be coarse enough to bathe the membrane thoroughly and wash away accumulated discharges.

Hypertrophic Nasal Catarrh and Hypertrophic Rhinitis.

Hypertrophy of the nasal mucous membrane occurs generally as a result of frequent attacks of acute rhinitis or as a complication of chronic rhinitis. Frequently from the use of improper snuffs, solutions of nitrate of silver or too forcible application of the douche, and in many cases idiopathically.

For those cases where operative measures are not necessary the continuous spray of Germiletum for cleansing and an efficient antiseptic astringent



FIGURE II.

Chronic posterior nasal catarrh; atrophic or dry pharyngitis. Treatment—Syr. ferri iodid internally three times a day; continuous Germiletum spray 2 or 3 times a day, as directed. These chronic catarrh cases require continuous treatment for some time to effect a complete cure.

As to the solution to be employed preference should be given to one combining with its cleansing properties that of reducing local congestion.

R Germiletum.....℥vj

Sig.—Use in a continuous spray atomizer twice daily, for two to four minutes.

Germiletum has proven itself to be very effective in the fulfillment of these conditions. It is non-toxic, non-irritating and by its alkalinity can be used continuously for an indefinite period—by its astringency causes the membrane to regain its normal state, it acts effectively, promptly and pleasantly as a rapid cure.

as in other forms of catarrh is an essential part of the treatment. When the degree of hypertrophy is moderate and the discharges are soft—satisfactory ablation of the parts can be conducted through the anterior nares, but when the hypertrophic process has so far progressed as to cause marked narrowing of the cavity the spray will not reach the mucous surface behind the bulging portions and Germiletum solution must be applied posteriorly. A very satisfactory instrument for the purpose is Hall's bulb syringe. Its stream can be so nicely regulated that any degree of force can be employed, while any quantity of Germiletum diluted with equal

parts of distilled water can be injected at a given time.

Germiletum is very pleasant to the patient, it is effective in removing accumulated discharges, does not irritate the parts and is a very effective antiphlogistic.

Atrophic Rhinitis and Dry Catarrh.

Atrophy of the mucous membrane of the nose producing an abnormal dry state and facilitating the accumulation of irritating and desiccating agents thus allowing accumulation of discharges as well as



FIGURE III.

Follicular tonsillitis treated by continuous spray of Germiletum ten minutes at each sitting and four or five times each day. There was prompt and uninterrupted recovery.



FIGURE IV.

Follicular pharyngitis treated with saline aperient, and a gargle of pure Germiletum, dessertspoonful, and swallowed, five times a day. All the follicles and inflammation disappeared in ten days—well.

resulting in obtunded or loss of the sense of smell, frontal headaches, impure or foul breath, and a disagreeable dryness or parchedness in the nostrils or pharyngeal vault causing the patient intense itching, principally located over the septum.

For relief of this very chronic and annoying disease the most important consideration is cleanliness—to keep the nasal cavities free from crusts and accumulations. Germiletum in a 50 per cent

used to effectually cure this most stubborn disease, especially if of long standing.

Germiletum is equally effective for the relief of those acute affections of the pharynx and larynx, to be used as a spray or gargle. It is my custom to direct in using a gargle to swallow after gargling, as few patients can gargle thoroughly and return the medicine. Germiletum is non-poisonous and non-toxic, hence its presence in the system is of no



FIGURE V.

Hypertrophied tonsils, amputated with tonsillotome. Germiletum was used in continuous spray for nose and throat four time a day. The throat was in an ideal condition in six days.

solution is the ideal preparation for this purpose, it softens the adherent crusts and facilitates their removal.

Germiletum is sufficiently stimulating to encourage an increase of blood in the circulation in these parts and regenerate the vitality of the tissues to restore their normal condition.

It requires a generous use of an alkaline antiseptic either with spray or douche, and persistently

moment other than for service.

I have used this remedy with great satisfaction in acute and chronic pharyngitis, follicular and atrophic pharyngitis, acute and chronic laryngitis, follicular tonsillitis, ulcerative tonsillitis, and in addition with antitoxin, as a gargle in diphtheria.

It is very efficacious in affections of the throat complicating scarlet fever.

Dr. Pettet's Western Retreat.

Having met with signal success in his Memphis Institution for the treatment of Alcohol and Drug Addiction and since there is a strong demand for Institutions of this kind conducted within ethical lines Dr. Pettet has opened a Retreat at 1939 East Evans av., Denver, Col. and will soon open another at Atlantic City, N. J.

These institutions will be under the management of physicians who have been associated with Dr. Pettet in this line of work at his Memphis Re-

treat. It has now been three years since Dr. Pettet published to the profession a successful treatment of the Narcotic Drug Addiction, and feels justified in opening these additional institutions. The profession is assured that they can depend upon the treatment at his branch Retreats being kept up to the same high standard. Dr. Pettet does not advertise to the public direct and his methods are open and ethical. We bespeak for his new branches the same hearty professional support that was given his Memphis retreat.

Selling Adulterated Drugs.

David B. Comer, Jr., David B. Comer, Sr. and J. E. King were arraigned before Commissioner Craig recently on the charge of obtaining money under false pretenses. Operating under the name of the German Chemical Company they have been selling adulterated drugs to the trade, at the same time violating the copyright laws of the United States. They were released on bail of \$500 each.

King some years ago devised a scheme to obtain money under false pretenses, adopting the name of the German Chemical Company, representing to druggists that he would furnish them with coal-tar products, especially Phenacetine-Bayer, at low prices, and imported in the original packages. In place of the genuine article he sent adulterated drugs, opening correspondence with different druggists throughout the United States and quoted fraudulent prices. This included the drugs commonly known as Sulfonal-Bayer, Phenacetine-Bayer and Trional-Bayer. The statement in the case of the Comers was about the same.

But the offense is of larger consequence than appears on the surface. In its ramifications many may have been murdered by the substitution of the adulterant. The drug, coal-tar, is an ethical preparation in that it is not advertised to the general public. It was invented by Bayer & Co., of Alberfeld, Germany, and the Farbenfabriken of Elberfeld Company of New York controls its sale in this country exclusively, and have used a certain label which has been copyrighted.

Phenacetine cost \$12 to \$16 a pound but the Comers and King sent out un-

der counterfeit labels a mixture of phenacetine (35 per cent) and another drug, acetanilid (65 per cent), which cost only 18 cents a pound, and is ten times as powerful as a heart depressant, consequently very dangerous to use in lieu of phenacetine; 5 grains having been known to cause death.

The case of the adulterators will come up again September 29. The extreme penalty is 18 months imprisonment and \$500 fine.

Thiocol as a Prophylactic for Malaria.

L. Polidoro, in a communication to the Thirteenth Congress of Internal Medicine of Padua, discusses the question of a possible substitute for quinin in cases where the drug is not well tolerated or where it has failed for any reason to cure malaria. He states that quinin has been commonly pushed much too far in cases of malaria, as is shown by the numerous cases of quinin hematuria, and that it has also been freely used in non-malarial cases, its failure to cure being made a reason for increasing the dose instead of revising the diagnosis.

Dr. Polidoro particularly criticizes the hypodermatic use of the drug, which is frequently administered with a septic syringe and causes abscesses, which again are treated with quinin. He compares quinin to mercury—a most useful drug, but one which easily lends itself to abuse. More briefly condemning phenocol, methyl blue, and preparations of arsenic, he passes on to thiocol. As the result of his own experiments he states that it is useful in phthisis, in tuberculosis of glands, bones and joints, in lupus, leukemia, pneumonia and other febrile diseases, in syphilis and, finally, in malaria. In

ordinary, it is easily tolerated, giving rise to no unpleasant gastrointestinal symptoms. It has no unpleasant taste, is very soluble, and is unirritating when given hypodermatically. Polidoro administered it to adults usually in two doses of 15 grains four hours and three hours before the expected return of a malarial attack. In 176 cases the result was immediately satisfactory; in 7 cases only the dose had to be doubled. Fever and acute enlargement of the spleen, and a small hepatic engorgement disappeared, the urine became limpid, and any existing gastrointestinal disorder was usually alleviated. Chronic enlargement of the spleen usually showed some reduction. In 13 cases microscopical examination of the blood was made and showed immobility or diminished mobility of the parasites with loss of segmentation. The author deprecated attempts at prophylaxis by means of quinin alone or quinin, iron and arsenic, and recommends a daily dose of 15 grains of thiocol, and washing exposed parts of the body with an aromatic solution to drive away mosquitos.

Campho-Phenique.

The standard antiseptic dressing (powder and liquid) has received the indorsement of eminent surgeons for the past twenty-five years. Many clinical reports and letters from those who have used campho-phenique indicate that this preparation is one of the best antiseptic dressings that can be applied to suppurating wounds, ulcers, abscesses, chancroids, burns, etc. It is far more preferable than iodoform, as it is odorless and possesses pronounced germicidal and healing properties. It destroys bacteria of all

kinds, inhibits their growth and renders the field of operation sterile. In the treatment of wounded surfaces, whether accidental or surgical, campho-phenique should be employed, both as a prophylactic to prevent the growth and development of pathogenic bacteria and as an antiseptic dressing, where suppuration has already set in. Satisfactory results may be confidently expected when this dressing is used. Samples and literature on request. Campho-Phenique Co., St. Louis.

Kidney and Urinary Affections.

Dr. O'Henly Snider, of Atlanta, Ga., says. I have proven Satyria's remarkable value in kidney and various urinary affections; one case especially of chronic nephritis being improved as no other medicine could do that I have tried.

A Rare Bargain.

Combination Battery.

We have a number of these batteries, which are intended for the general practitioner. Gives faradic and galvanic current for treatment. Illuminates diagnostic lamps, also do all ordinary cautery work. The principal recommendation and one in which it excels all existing models, is that it will do this work perfectly, having advantage of being portable. Weight 15 pounds. Dimensions 12x9x8 inches. If directions for its use are followed, we guarantee it will do the specified work without fail.

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CLINICAL NOTES.

ECZEMA :

THE "BETE NOIRE" OF THE PHYSICIAN'S LIFE.

By M. YARNALL, M.D., St. Louis, Mo.

I have before me a bottle of the new antiseptic, germicide and disinfectant,—Germiletum. I write this brief paper with a view of calling the attention of the medical profession to its efficiency. It has proven in my hands superior to all other antiseptics, being without acid reaction—slightly alkaline, hence entirely unirritating.

The medical profession realizes what a great advantage they now possess over their fellows of the past; the new and useful instruments, the admirable mechanical appliances of every description and the elegant pharmaceutical preparations to meet almost every emergency, produced by entirely reliable manufacturers who constantly keep abreast of every advance in the science of medicine, adding so materially to our armamentarium, through these collateral branches it is relatively easy for the general practitioner to again embrace upon the higher plane in his practice, many of the diseases, which have for a number of years been relegated to the specialist, indeed, so circumscribed has become the field of the general practitioner, especially in cities where hygiene and sanitary precautions have reduced acute diseases to the minimum, that he, the general practitioner, must include some of the more common ailments that have been regarded as dis-

eases to be treated only by specialists, among these I would mention as taking the first place—nasal catarrh and eczema, which are so annoying to treat and more or less inveterate, but with the improved methods and knowledge now in our possession they should be again included in the list of diseases belonging to the family phy-



Eczema Capitis.

sician, the laity should be taught, or made to understand, that their regular doctor is thoroughly prepared to successfully treat and scientifically manage this class of cases, not only will he hereby widen his present field of work, but keep his patients in better morale and out of the hands of char-

latans; he has only to "man" himself to his wider scope of practice, which he can do with ease, and especially can the student of medicine who is preparing himself for general practice take in this broader field.

it is difficult for him to command the high esteem necessary for complete confidence, this must be done by broadening his sphere of action, thereby impressing his patients. In thus commanding their respect he will be enabled to keep them from using worthless nostrums, thus saving them



Psoriasis Diffusa of the Palm.

He is enabled to do so with but little effort, because of the perfect system of teaching now in vogue and the longer time, required by schools of medicine in which to study, observe and digest his knowledge and perfect himself for practice. His art must command the respect of families who will retain him with increased and ever growing regard, often amounting to reverence.

The field of work has been so narrow and is now so circumscribed, that



Eczema Seborrheicum Universale, Mixed-wet and Dry Forms.

much expense and in many instances, injury. Every industrious, earnest and intelligent practitioner is enabled in these days of progress to relieve suffering humanity. Instruments of a high degree of perfection can be changed or modified, if necessary, for each individual case by skilled and ingenious workmen.

Scientifically and elegantly prepared therapeutic agents, made by skilled chemists, pharmaceutical manufacturers are at hand making successful practice remunerative and comparatively easy.

In suggesting the above views I wish, in conclusion, as an illustration of the foregoing ideas to again call attention to the new and certainly one of the most valuable agents offered exclusively to the profession—Germiletum. This remedy, in connection with proper constitutional treatment, as the case may demand, will enable us to treat eczema so successfully that a short time ago would have been thought impossible.

I have been able to obtain entirely satisfactory results from the use of Germiletum in the treatment of eczema in the most virulent form. Germiletum is really as near a specific in the treatment of eczema and catarrhal affections as is possible, and I recommend the members of the profession to give Germiletum an impartial trial, believing they will not be disappointed.

The component parts of Germiletum are well known to any and all physicians who desire to know the same, therefore it has no relation to patent or quack nostrums.

A Physician Speaks.

Dr. W. W. Grube, editor of the *American Medical Compend*, says:—"I have had my 1904 Winton 2 months and have had no trouble whatsoever. It has never failed to start or stop when I desired it. I think it is the best car in Toledo and am getting my friends to think so too."

Absolute reliability is a Winton characteristic.

\$2500 completely equipped; \$2300 without top; f.o.b. Cleveland.

The Winton Motor Carriage Company, Cleveland, Ohio, U.S.A. Member A. L. A. M.

Treatment of Neurasthenia and Amenorrhœa.

By L. H. Warner, M.D.,
New York.

The predisposing and exciting causes of neurasthenic conditions become more frequent from day to day so long as the excessive use of brain power is called upon to meet the requirements or combatting for the struggle of existence. It is not necessarily presumed that the so-called fatigue or brain fog are the only results of such excessive taxation upon the cerebro-spinal and vasomotor nerve system, but it may also be said and only too true, that the addiction to alcoholic stimulants has increased. Both sexes now liberally imbibe and the results are only too visible to the conscientious observer of both physical and clinical symptoms exhibited by his or her patient. Dr. Charles L. Dana, in his work on Neurasthenia, states:

"The tendency of people to city rather than rural life is perhaps one of the strongest predisposing causes of neurasthenia." In order to successfully treat all neurasthenic conditions it is of vital importance to study and observe the probable functional disturbances of the heart's activity and of the vasomotor disturbances. My report on the cited cases is based upon absolute records of temperature, pulse-tracings, blood examinations, examinations of the stomach's contents, urine, etc. Whenever and wherever neurasthenic conditions prevail the process of hematopoiesis or blood-building function ceases and the thermogenic tissues (heat producing tissues) are excited.

Hence the rational treatment of all neurasthenic conditions should tend to select a therapeutic agent which will act as a true sedative and will demonstrate its physiological action by rapidly and permanently establishing thermotaxis. Anemia is easily determined by restoring to hematology, viz., equivalent reduction of hemoglobin and red cells from the normal and if any inflammatory or suppurative process be present by an increase of leukocytes. If a hyperemia be present then traces of indican, bile pigment, uric acid, etc., can be found.

Regarding the treatment of neurasthenic cases we have at our command many therapeutic agents, especially the bromin and iodine halogen derivatives. These latter tend to aggravate rather than lessen any possible present digestive disturbances, hence my search for a remedy void of these factors. It is of more importance to select a systematic remedy than a spinal sedative or hypnotic, and my attention having been called to Pas-Avena I decided to try its merits in a series of cases.

Neurasthenia. — Patient, aged 43 years, clerk. He had enjoyed good health up to November of last year, when he met with an automobile accident. No local injury was noticeable, but he was extremely nervous and complained of lack of appetite, insomnia, etc. Prior to my seeing him he was advised to take ammon. valer. in 10-grain doses. In December I placed him on Pas-Avena, \mathfrak{J} j, every 4 hours, subsequently reducing the dose to \mathfrak{J} j, t.i.d. After the first day's use of Pas-Avena the patient enjoyed regular sleep. After 18 days' use of Pas-Avena I placed him on a ferruginous

tonic, and on the 21st day discharged him, recovered.

Amenorrhea. — Patient, aged 23 years, housewife. Cessation of menses for three months, extremely nervous, no appetite, very anemic. I prescribed Pas Avena, \mathfrak{J} j, every 4 hours, with liquid food. On the 10th day solid diet was substituted, and Pas-Avena, \mathfrak{J} j, t.i.d. In three weeks the patient had entirely recovered.

Points on Endometritis.

In outlining the local treatment for uterine engorgement, endometritis and chronic urethritis, the writer believes it wellnigh impossible to state definitely where one of these conditions ends and the other begins, so closely are they associated. In discussing treatment, we must consider the condition to be met; the endometrium presenting its varied stages of congestion, inflammation, degeneration of membrane with its putrefactive concomitants, according as types change from acute to chronic.

In acute form the discharge is catarrhal in character, and as the disease becomes chronic we see the discharge turn to a greenish-brown color and very offensive. In this stage, frequent hot vaginal douches of Glyco-Thymoline in twenty-five per cent strength to encourage rapid depletion of the membrane, together with rest, will generally suffice. When the chronic stage is met, we must look more carefully into the cause; if displacement is present it must be corrected; if old lacerations are shown they must be aided in repair. Dilatation of the cervix will generally show us a turgid congested

membrane, thickened from one-eighth to one-half inch by inflammatory process, in varying degree of decomposition, which demand radical treatment. There are those who hold against any local intrauterine treatment, others disapprove the curette, but the ideal treatment now recognized generally is one which promptly rids the cavity of all agents that are producing toxins, the absorption of which might engender sepsis. To thoroughly remove this broken down membrane, the curette is used when irrigation will not suffice, the sharp variety is condemned as unnecessary and dangerous. An irrigating curette with a dull spoon is acknowledged to be the best. This instrument contains a small cannula which, when attached to a fountain syringe, permits the flow of antiseptic solutions such as Glyco-Thymoline, during the entire operation. The danger of the curette comes from the fact that unless used with precaution, it tends to destroy the lymph barrier or reaction layer which Nature has erected in her ideal method of combating this disease. Uterine phlebitis is aggravated by the rough use and at times the walls have been punctured. When sepsis is present, the curette is worse than useless. Depleting antiseptic measures are our hope. Glyco-Thymoline, used in fifty per cent strength as an irrigation, rapidly reduces the inflammatory engorgement, checking further absorption of toxins, drawing outwardly through the capillaries the products of inflammation, and exerting a powerful influence in reducing temperature.

In the typical case of endometritis after thorough curettage, the intrauterine cavity should be flushed with

a fifty per cent solution of Glyco-Thymoline, and the vagina tamponed with a well saturated Glyco-Thymoline gauze. This should be removed in twelve hours, and vaginal douches of twenty-five per cent Glyco-Thymoline hot, ordered three times a day.

A recent case occurring in the practice of G. F. Meeser, M D., of Philadelphia, Pa., Mrs. J. R. (multipara), aged 39 years, miserable appearance, anemic, nervous, digestion poor, constant pain in pelvic region, and unable to attend to household duties. Examination disclosed ovaries inflamed and the cervix enlarged and ulcerated — endometritis well marked — discharge, mucopurulent in character and very offensive. I curetted the uterus thoroughly, using a medium curette, washing out the cavity afterward with equal parts of Glyco-Thymoline and hot water. Packed with iodoform gauze, which was allowed to remain for six hours, when it was replaced with sterile gauze saturated with pure Glyco-Thymoline. This was removed next morning and followed with intrauterine douche of Glyco-Thymoline in twenty-five per cent strength. Vaginal tamponing was then instituted, using a gauze saturated with pure Glyco-Thymoline, this to remain twelve hours. Vaginal douching with a twenty-five per cent solution of Glyco Thymoline (hot) twice daily, gradually reducing the strength to a ten per cent solution. This treatment was carried on about six weeks, at which time, the patient was discharged as cured.—F. H. Martin, M. D., in *Clinical Review*, May, 1903.

Vomiting of Pregnancy.

I have recently had occasion to prescribe Peptenzyme in a case of vomiting of pregnancy in a woman, aged 35 years, primipara. She suffered intensely from nausea immediately after eating, having been unable to retain scarcely any food for nearly three weeks. Various 'digestive' compositions were employed without the least benefit, some even seeming to aggravate the trouble. I put her on Peptenzyme, two tablets after each meal. She has not vomited since taking the first dose about two weeks ago. I never saw a drug act so promptly, nor so uniformly as has Peptenzyme. I do not believe there is another agent of its class on the market that approaches it in therapeutic value. I have also used the remedy in gastric catarrh and atonic dyspepsia with absolutely positive results. It does not wear out like many of the so-called digestive compounds, especially some of the stuff on the market that is sold to physicians at 25 cents per ounce and which is composed principally of sugar of milk and other cheap agents to add bulk with just sufficient Pepsin to give them the characteristic smell. My advice to the profession is to use Peptenzyme wherever and whenever such an agent is indicated. In the vomiting of pregnancy it is sometimes best to give one tablet one-half hour before eating and one immediately after.

In indigestion where there is malnutrition and consequently tissue waste without repair, Peptenzyme will act in a most agreeable and satisfactory manner. When given to the habitual drinker after a "booze" it

will assist in correcting the gastric trouble and enfeebled nerve condition that almost robs him of a conscious individuality.

Reminder.

Dioivburnia:—The Standard Uterine tonic and Antispasmodic, unexcelled in Dysmenorrhea. In female Neurosis two parts to one of Neurosine.

Neurosine:—The Standard Neurotic, hypnotic and anodyne. Contains no opium, morphine or choloral. A specific in Epilepsy.

Germiletum:—The Standard Antiseptic, germicide and disinfectant. Slightly alkaline, no acid reaction. specific in Catarrh and Eczema.

Comment on Antikamnia & Heroin Tablets.

Under the head of "Therapeutics," the *Medical Examiner*, contains the following by Walter M. Fleming, A.M., M.D., (Qualified Examiner in Nervous and Mental Diseases for Supreme Court, New York City), regarding this valuable combination: "Its effect on the respiratory organs is not at all depressing, but primarily it is stimulating, which is promptly followed by a quietude which is invigorating and bracing, instead of depressing and followed by lassitude. It is not inclined to affect the bowels by producing constipation, which is one of the prominent effects of an opiate, and it is without the unpleasant sequels which characterize the use of morphin. It neither stupifies nor depresses the patient, but yields all the mild anodyne results without any of the toxic or objectionable phases.

When there is a persistent cough, a

constant "hacking," a "tickling" or irritable membrane, accompanied with dyspnea and a tenacious mucus, the treatment indicated has no superior. In my experience I found one Antikamnia & Heroin Tablet every two or three hours, for an adult, to be the most desirable average dose. For night-coughs, superficial or deep-seated, one tablet on retiring, if allowed to dissolve in the mouth will relieve promptly and insure a good night's rest. In short, it will be found futile to delve for a more prompt and efficient remedy than "antikamnia & heroin tablets" in all bronchial complications with laryngeal irritation, dyspnea, asthma, winter-cough and general irritability of the thoracic viscera.

Epilepsy.

I received the samples you had the kindness to send me some days ago. Both the Neurosine and Dioviburnia have proven superior to anything I have tried where indicated. In a case of epilepsy in a little boy only two slight attacks have occurred since I have been treating him with Neurosine and I believe a permanent cure will be effected by this preparation together with the proper constitutional treatment.

A. Lyman Paey, M.D., Eagle, West Virginia, August 23, 1904.

Treatment of Chronic Ulcer of the Leg of Long Standing.

Horatio W. A. Cowen, M.B., C.M. (Aberd.) in *The Lancet*, London, July 2, 1904. At the beginning of the present year I was called to a woman, aged 54 years, who had a chronic sloughing ulcer for 22 years situated

on the outside of the left leg, some ten inches long and three inches wide, with indurated edges and some thrombosis of the veins of the inside of the knee. Having first cleansed the ulcer with charcoal poultices for two days I applied wet butter clothe and then spread Antiphlogistine over it after which cotton wool and a bandage were put on. This was done every day by the patient's friends for four months. The ulcer is now quite healed over and the induration is all gone. She is able to resume her ordinary housework. I publish this case in the hope that it might be useful to others as Unna's paste and all sorts of methods had been previously tried. I may say that I have no personal interest in Antiphlogistine.

Carabana Indorsed.

I have submitted your Carabana water to clinical trial. Results satisfactory. Safe and efficient eliminant. Action rapid and uniform. Complete evacuations with thorough cleansing. Agreeable in taste. No griping No tenesmus. In acute cases, much preferable to the treacherous calomel or nauseating epsom. I am prescribing it at present, and shall order a supply for my office shortly.

—, M.D., New York City, September, 1904.

Hagee's Cordial.

Hagee's Cordial of Cod Liver Oil Compound is one of the most popular cod liver oil preparations on the market. All the nutritive properties of the oil are retained and the disgusting and nauseating elements are eliminated. Combined with hypophosphites

of lime and soda it offers to the profession a reconstitutive of great value.

Dysmenorrhea.

At my request you sent me a sample bottle of Dioivurnia with which I treated a very severe case of dysmenorrhea with excellent results. I shall certainly keep it in stock in the future.

J. A. Nolan, M.D., New Athens, Ill., July 2, 1904.

Cystitis and Impotency.

Dr. E. Barlow, Willow Hole, Texas, says, "I have had very beneficial results from the use of Satyria, in cystitis and impotency."

Saline Laxative.

Dr. W. W. M., of Texas, says: Saline Laxative is the thing he has been looking for for a long time, and that he never expects to be without it long at a time unless he should find something better.

A Sheet-anchor.

I have been thinking for some time of adding my testimony to the virtues of Dioivurnia and Neurosine, both of which I have tried to my entire satisfaction; they are certainly a "sheet-anchor," so to speak.

Ladies who suffer mostly on or just about the approach of menstruation, especially those of a very nervous disposition, with hysterical and despondent periods, the two combined make a No. 1 recipe. I shall always prescribe them in my practice.

Dr. J. P. Carrington, Waller, Texas.

Inflamed Eyes.

Palpebrine is the finest preparation for inflamed eyes I have ever used.

Dr. H. G. Isenberg, Tea, Mo.

ECZEMA.

I used Germiletum for a bad case of eczema and it gives me pleasure to report that it has made a cure. I am now trying it on an inveterate case on feet and legs, that is also showing itself on the forehead, with very satisfactory results. I shall continue its use. Dr. T. H. Abbott, St. George, S.C.

I take great pleasure in saying that I have used Germiletum in several chronic cases of eczema with marked improvement. Dr. T. G. Horn, Colorado Springs, Col.

Full size bottle sent *Free* to Physicians not familiar with the merits of GERMILETUM, they paying express. DIOS CHEMICAL CO., St. Louis.

A Rare Bargain.

Combination Battery.

We have a number of these batteries, which are intended for the general practitioner. Gives faradic and galvanic current for treatment. Illuminates diagnostic lamps, also do all ordinary cautery work. The principal recommendation and one in which it excels all existing models, is that it will do this work perfectly, having advantage of being portable. Weight 15 pounds. Dimensions 12x9x8 inches. If directions for its use are followed, the manufactures guarantee it will do the specified work without fail.

Regular price, including sponge, grip, electrodes, cords and one diagnostic lamp-cord, \$30.00. We offer same for \$15.00, express prepaid.

Address, Courier of Medicine Company, 2940 Locust St., St. Louis.

CLINICAL NOTES.

RESPIRATORY TRACT:

AFFECTIONS, SYMPTOMS AND TREATMENT.

By ARTHUR B. SMITH, M.D., Springfield, Ohio.

The average physician is frequently vexed in finding a condition which resists his best efforts to bring about a cure. This holds good in almost every disease at some time or other, but particularly in affections of the respiratory tract, where there may be a great variety of symptoms in several cases of the same disease.

Almost every physician has some favorite prescription for coughs, bronchitis, laryngitis, etc., which he uses until suddenly it seems to lose its efficacy—why, no one knows. Then another remedy takes its place until it, too, fails to give the desired result. It is rarely that one finds a cough remedy which will be consistently good in the majority of cases. Theoretically there appears to be a well-founded objection to the use of cough syrups in general, but nevertheless there are times when nothing else gives satisfaction; therefore, the physician pins his faith to that remedy from which he and his patients derive the most good. It is not always easy to find such a remedy, but when it is once found, it is equally difficult to dispense with, and often the physician is almost compelled to resort to a routine treatment. In such cases, of course, he wants the best.

There are constantly being placed on the market new formulas for affections of the air passage. Some of

these formulas are of undoubted benefit in some cases, but usually it will be found that the results are far from satisfactory. Many of them can not be taken when there is any gastric complication, as is sometimes the case, because of consequent nausea and vomiting. Others seem almost invariably to act as cardiac depressants and are highly objectionable for that reason. With the advent of heroin, however, these disagreeable features have, to a great extent, been avoided. Heroin, in the vast majority of cases, can be tolerated by even the most sensitive stomach, and, if any disturbance should occur, it can easily be obviated by decreasing the dosage and then gradually resuming the previous amount. Heroin can be prescribed, in cases which are complicated by an enfeebled heart, without danger of depressing effects. As compared with codeine, its sedative action on the respiration is much more powerful. The fatal dose of heroin is said to be one hundred times the efficacious dose, while with codeine the efficacious dose is one-tenth of the fatal dose. In other words, heroin is ten times safer than codeine, and can be given in much larger doses, if necessary, without danger. It appears to exert a specific action on the center of respiration without causing disturbances of any other organs or centers, and there

is no danger of acquiring any habit by its use.

Some time ago my attention was called to a preparation composed of a solution of heroin in glycerine, combined with expectorants, called Glyco-Heroin (Smith). Each teaspoonful of this preparation contains one-sixteenth grain of heroin by accurate dosage. It is of agreeable flavor, therefore easy to administer to children, for whom the dose can be easily reduced with any liquid, or by actual measurement. It possesses many advantages not shown by any other preparation I have used, and has none of their disagreeable features.

Case 1.—S. B., aged 16 years. Caught a severe cold while traveling. This developed into an unusually severe attack of bronchitis with mucous rales, pain, cough and some slight fever. Prescribed Glyco-Heroin (Smith) one teaspoonful every two hours, decreased to every three hours. After a few doses were taken there was a decided improvement, the respirations were slower and deeper, the expectoration freer and the temperature normal. In a few days the patient was practically well and able to return to school. No medicine except Glyco-Heroin (Smith) was given and the results from its use were excellent.

Case 2.—B. E., aged 26 years. Severe bronchitis accompanying an attack of influenza. Various remedies were tried in this case, with negative results, until Glyco-Heroin (Smith) was given in teaspoonful doses every three hours. In a short time decided relief was obtained and the cough stopped permanently.

Case 3.—W. H., aged 5 years. Whooping cough. Spasmodic parox-

ysms of coughing, sometimes being so severe as to cause vomiting. Tenacious mucus was present, requiring great expulsive effort to loosen it. There was little fever, but the patient was much prostrated and weakened by the cough. Glyco-Heroin (Smith) was given in 10 drop doses every two hours with good results. This was combined with hygienic treatment, the patient being given as much fresh air as possible. In a few days the condition was much ameliorated, the cough under fair control, expectoration was freer and easier to raise, and convalescence uneventful. The case was discharged cured and there were no unpleasant sequelæ, the patient at present being in perfect health.

Sir William Roberts on Digestion.

Sir William Roberts, of London, the great authority on digestion, says: "The digestive change undergone by fatty matter in the intestines consists mainly in its reduction into a state of emulsion or division into infinitely minute particles. In addition to this purely physical change, a small portion undergoes a chemical change whereby the glycerine and fatty acids are dissociated. The main or principal change is undoubtedly an emulsifying process, and nearly all the fat taken up by the lacteals is simply in a state of emulsion."

This eminent authority is confirmed in the foregoing view by various experiments by which it has been ascertained that fat food pass from the lacteals into the circulation by way of the thoracic duct in the form of an emulsion.

Emulsified cod liver oil as contained in Scott's Emulsion appears in a form

so closely resembling the product of natural digestion—as it occurs within the body—that it may well be administered as an artificially digested fat food of the very highest type. In combination with the other ingredients mentioned—glycerine being an emollient of inestimable value—Scott's Emulsion offers to the physician a valuable, exquisite and rare accession to his prescription list.

A Few Words About Hypnotics and Anodynes.

For ages past it has been the aim of the medical profession to produce a sleep inducing and pain relieving agent, whose action is prompt and positive and still possess none of the objectionable properties so common with all soporifics and anodynes. With this object in view, several years ago we began extensive pharmaceutical, chemical and physiological experiments, and after most careful research have at last succeeded in producing the most safe and positive hypnotic and anodyne known to the profession.

Morphin and Opiates, the curse of mankind who abuse their entrancing and delusive properties, Bromids the nerve racking compounds, Chloral the unsafe, and in fact all of the unreliable hypnotics, anodynes and neurotics, have been replaced by the ever reliable and safe Pas Avena.

Morphin whose prolonged usage necessitates increasing dosage which in time becomes habitual, is beautifully replaced by Pas-Avena. Its action is just as prompt and its dosage remains constant. Likewise there is no danger of habit, in fact Pas-Avena has been effectively used in cases of Morphin Habit with marked success.

Chloral and Paraldehyd, whose nauseating, dream and headache producing effects are so undesirable are charmingly substituted by Pas-Avena, no nausea being produced, the patient rising as from a natural physiological sleep.

Pas-Avena is an admirable substitute for Paragoric and can be administered without hesitancy where the latter remedy is indicated.

The Coal Tar soporifics and anodynes have their characteristics heart depressant action, often disastrous, and should be discarded in favor of Pas-Avena, no such action ever being apparent after its administration.

Pas-Avena contains no Morphin or Opiates, Bromids, Chloral, Sulphonal or Paraldehyd.

Sal-Codeia Bell.

Bell & Company refine their own codein, which is pure and more efficient than the commercial product. Being free from morphia, it does not check secretions or cause a drug habit. Salacetin is a combination, with heat, of salicylic and acetic acids with purified phenylamin. It eliminates uric acid more thoroughly than salicylates, without causing irritation. Sal-Codeia Bell is a combination of five grains of salacetin and one-quarter grain of codein sulphate. They have been making this tablet for seven years. During that time, they have had no reports of any objectionable results, and many reports of its remarkable efficiency in relieving rheumatic and neuralgic pain and in eliminating uric acid. A trial in cases of lithemic or sick headaches will demonstrate its efficiency in these conditions. The results in cases of rheumatism, neural-

gia, tonsilitis, and grip are superior to anything they know of and they are anxious that physicians should become acquainted with its value.

CHANGE OF NAME.

Uric-Antigon.

Uric-Antigon is a *par excellence* remedial agent for Rheumatism, Gout, Sciatica and Lumbago—either chronic or acute. This product has heretofore been advertised and supplied largely under the name of Uric-Arthrin, by the Uric-Arthrin Mfg. Co., of Peoria, Illinois.

But as there was a patent medicine advertised under a similar name, and that the doctors would not confuse this patent medicine, they thought advisable to change the name, to Uric-Antigon. Also change the name of the company to the Anti-Uric Co., therefore, it is well for physicians who would prescribe a uric acid diathesis which is very efficient in Rheumatism, Gout, Sciatica, and Lumbago, to remember that Uric-Antigon is almost a specific in such cases.

The Anti-Uric Company of Peoria, Ill., who manufacture Uric-Antigon will take pleasure in furnishing free literature, by mail, or full size bottle free, the doctors paying express.

Tuberculosis.

The Van Ness Lacto-Marrow Compound (Van Ness formula) is a scientific preparation to build up the system and increase flesh. This preparation is composed of predigested beef marrow (long bones), eggs, cream, farinaceous matter, with hypophosphites and saccharine; all held in an elegant solution with choice ferments, making a delicious, rich and palatable prepara-

tion. As a tissue builder it has no equal. Being predigested it is acceptable to the most delicate taste, is quickly assimilated and gives immediate results. Take one to two tablespoonfuls three times daily.

To the Medical Profession. — In placing Lacto-Marrow Compound before the medical profession, we do so with the indorsement of most eminent physicians, particularly those who make a specialty of diseases of the lungs. Consumption has been considered incurable, but by the use of Lacto-Marrow Compound and Pil. Tuberculosis, eight out of ten cases recover. We submit the following letters:

Chas. S., tuberculosis of the left lung. Disease of two years' duration, had several hemorrhages; very emaciated, and case diagnosed incurable consumption. Began taking Lacto-Marrow Compound and Pil. Tuberculosis, the hemorrhages ceased, appetite improved and weight increased from the beginning, and now after using the treatment six months, patient has gained 48 pounds, all symptoms of disease having disappeared and he is enjoying first-class health. This case was treated by Dr. J. W. Hurley, University of New York.

"Essex County State Hospital, Newark, N. J.: An extended test of Lacto-Marrow Compound introduced by the Van Ness-Cooper Co., of New York, has been convincing us of its utility for conditions of extreme debility in which the digestive power to assimilate food is absent. Its action has been most gratifying. Drs. L. S. Hinckley, Supt. Robert Bolton, Asst. Physician. Wm. H. Hicks, Pathologist."

"I have been using Lacto-Marrow Compound continuously for upwards

of eight months in the case of a young lady suffering from chronic gastroenteritis and I am greatly pleased at the results I have obtained. Dr. Thomas E. Satterthwaite, Consulting Physician to the Post-Graduate Orthopedic and Babies' Hospital, etc., New York."

"I have used Lacto-Marrow Compound and find it highly satisfactory in all cases for which it is intended, especially so in many varieties of mental and nervous diseases. Dr. Wm.E. Silverter, Late Supt. Long Island State Hospital."

Price, per pint, \$1.00; per doz., \$9.00, so you see this is sold at a fair price.

This laboratory is run under the supervision of Dr. Eugene Van Ness, which is a guarantee that the productions are reliable. We have had occasion to visit his laboratory and it is one of the most complete in all its appointments. Its products are shipped all over the world. Lacto-Marrow Compound is the most palatable preparation extant, it would be advisable for physicians in this section to give this their attention.

Automatism.

An automatic device suggests the spontaniety and natural ease of thought; the power of motion that does not need external aid; vital energy that is never spasmodic, and on that account often dangerous. Black's "Automatic" Breast pump, for instance, is one of the great inventions of the age. Why is it superior to all other breast pump? First, because it can be so regulated that it removes all danger of bruising the delicate tissues of the breast. Then it does its work perfectly; having no unnecessary bulbs and valves it can be easily cleaned. It

is the cheapest instrument of its kind.

Black's "Automatic" Breast Pump draws the milk from caked breasts without danger to the breast-arteries. All other pumps are too severe, they pull and hurt the tender breast.

Black's "Automatic" may be applied to the sorest breast without pain, and by simply touching a valve, which allows the air to escape, it falls off without the least unpleasant sensation.

CATARRH.

By A. W. Latimer, M.D.,
St. Louis.

Late Physician to the City Hospital.

Catarrh has assumed such proportions that every practitioner of medicine must necessarily equip himself to meet the increasing and onward march of this tenacious disease.

Catarrh seldom abates after a few acute attacks to an extent that sufferers will relinquish the treatment instituted, more especially if they find relief from its use—the treatment should always be altered to suit the different stages.

Catarrh permeates every phase and grade of life from the hovel to the palace, and in every clime, more troublesome at certain seasons of the year, however.

Acute catarrh and acute rhinitis or coryza, due most often to a slight cold, is usually the beginning of the tenacious chronic catarrh.

Inhalations of hot, dry air—irritating vapor, dust and the emanations of certain drugs, are other sources of acute coryza.

Predisposition is an important factor in masses—some persons being affected by the least exposure to any of the exciting mediums.

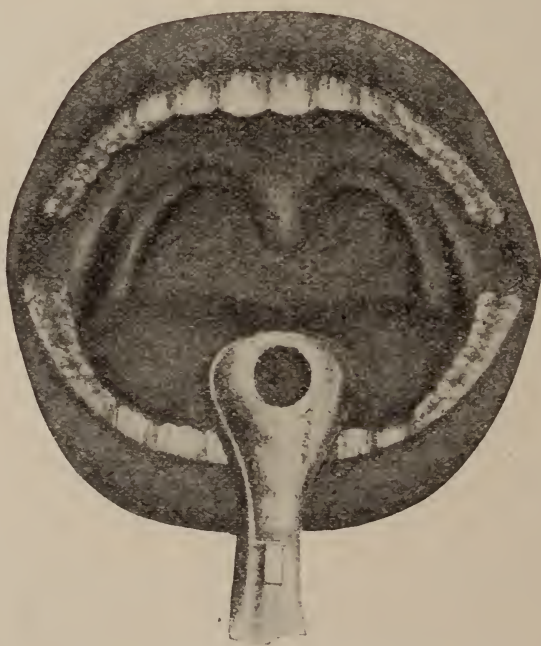
Children are particularly subject to it; while the aged enjoy comparative immunity. A scrofulous taint seems to render the mucous membrane susceptible to frequent attacks and, in persons of rheumatic diathesis, it is often present.

It occasionally appear as an epidemic through atmospheric perturbation.

If seen early an attack of acute ca-

ted, and the severer forms I have found do infinitely better with this spray than with any other application—unguentum, powder or spray.

The spray can be used with Germiletum alone if the mucous surface is not overly sensitive. Germiletum is an astringent antiseptic—stimulating to the vasomotors of the membrane antagorious, the vasomotor paresis, thus counteracting the vascular en-



Normal Condition of the Throat.

tarrh can generally be cut short. If severe, the patient should be kept in a warm room and small doses of tincture opii deodor. frequently administered internally, and the nose and throat gently flushed with

Germiletum,

Aq. dest. - - - aa ʒiv

M. Ft. sol. Sig.—Use in an Acme atomizer every two hours.

There are so many mild cases that require only the spray as above direc-

gorgement and transudation. It is very serviceable throughout the affliction in all stages.

Simple chronic rhinitis, chronic nasal catarrh, chronic coryza and chronic inflammation of the nasal mucous membrane are generally the result of repeated acute attacks. The success of the treatment depends greatly upon the proper recognition of the cause of the trouble in each individual case.

Cleanliness is of prime importance,

especially, when the affection is due to local irritation by extraneous matter, but great circumspection should be used in selecting the proper instrument. A too powerful stream would act as a local irritant and while performing its office as a cleansing agent would increase the inflammatory process and encourage hypertrophic changes. The atomizer is undoubtedly the best instrument for the purpose, provided its spray be coarse enough to bathe the membrane thor-

irritating and by its alkalinity can be used continuously for an indefinite period—by its astrigency causes the membrane to regain its normal state, it acts effectively, promptly and pleasantly as a rapid cure.

Hypertrophic Nasal Catarrh and Hypertrophic Rhinitis.

Hypertrophy of the nasal mucous membrane occurs generally as a result of frequent attacks of acute rhinitis or



Chronic Posterior Nasal Catarrh. Germiletum Spray 3 Times a Day.

oughly and wash away accumulated discharges.

As to the solution to be employed preference should be given to one combining with its cleasing properties that of reducing local congestion.

R_x Germiletum. - - - 3vj

Sig.—Use in a continuous spray atomizer twice daily, for two to four minutes.

Germiletum has proven itself to be very effective in the fulfillment of these conditions. It is non-toxic, non-

as a complication of chronic rhinitis. Frequently from the use of improper snuffs, solution of nitrate of silver or too forcible application of the douche, and in many cases idiopathically.

For those cases where operative measures are not necessary the continuous spray of Germiletum for cleansing and an efficient antiseptic astringent as in other forms of catarrh is an essential part of the treatment. When the degree of hypertrophy is moderate and the discharges are soft—sat-

isfactory ablu-tion of the parts can be conducted through the anterior nares, but when the hypertrophic process has so far progressed as to cause marked narrowing of the cavity the spray will not reach the mucous surface behind the bulging portions and Germiletum solution must be applied posteriorly. A very satisfactory instrument for the purpose is Hall's bulb syringe. Its stream can be so nicely regulated that any degree of force can be employed, while any quantity of Germiletum diluted with equal parts of distilled water can be injected at a given time.

Germiletum is very pleasant to the patient, it is effective in removing accumulated discharges, does not irritate the parts and is a very effective anti-phlogistic.

Through Tourist Sleeping Cars to California.

Commencing Saturday, September 17th and every Tuesday and Saturday thereafter, the Iron Mountain Route will run Through Tourist Sleeping Cars from St. Louis to Los Angeles, California, via Texarkana and El Paso "The True Southern Route."

These excursions will be personally conducted and the service will be up-to-date. For information and berth reservations write any representative of the Iron Mountain Route, or address H. C. Townsend, G. P. & T. A., St. Louis, Mo.

America's Great Sanitorium.

The Iron Mountain Route operates five Daily Trains for Hot Springs, Arkansas, from St. Louis. These trains run on convenient schedules, and carry elegant Pullman Sleeping Cars,

Free Reclining Chair Cars, Observation, Cafe Dining Cars—meals *ala carte*. For descriptive and illustrated literature on Hot Springs, address H. C. Townsend, General Passenger & Ticket Agent Mo. Pac.—Iron Mountain System, St. Louis, Mo.

Reminder.

Dioiviburnia:—The Standard Uterine tonic and Antispasmodic, unexcelled in Dysmenorrhea. In female Neurosis two parts to one of Neurosine.

Neurosine:—The Standard Neurotic, hypnotic and anodyne. Contains no opium, morphine or choloral. A specific in Epilepsy.

Germiletum:—The Standard Antiseptic, germicide and disinfectant. Slightly alkaline, no acid reaction. specific in Catarrh and Eczema.

A Rare Bargain.

Combination Battery.

We have a number of these batteries, which are intended for the general practitioner. Gives faradic and galvanic current for treatment. Illuminates diagnostic lamps, also do all ordinary cautery work. The principal recommendation and one in which it excels all existing models, is that it will do this work perfectly, having advantage of being portable. Weight 15 pounds. Dimensions 12x9x8 inches. If directions for its use are followed, the manufactures guarantee it will do the specified work without fail.

Regular price, including sponge, grip, electrodes, cords and one diagnostic lamp-cord, \$30.00. We offer same for \$15.00, express prepaid.

Address, Courier of Medicine Company, 2940 Locust St., St. Louis.

CLINICAL NOTES.

The Correction of Abnormal Conditions of the Blood Relative to Surgical Operations.

By S. C. EMLEY, A.B., M.D., of Wichita, Kansas.
Late Pathologist Augustana Hospital, Chicago.

Frequently the surgeon is called upon to operate on patients who, when they first present themselves, are in no condition to stand an operation on account of deficient quantity of blood or the poor quality of its quality. On the other hand, it is desirable that the patient regain his normal condition as soon as possible after operation, whether the abnormal condition of the blood is due to the operation or not.

The ideal remedy is that which will restore the normal condition of the blood in the shortest time with the least disturbance to the rest of the body, the digestive system particularly. Less necessary are palatability and cost of the remedy. To determine which of several preparations best fulfilled the above conditions was the purpose of this investigation.

All of the preparations used being recognized as good, Dr. A. J. Ochsner gave me permission to prescribe them as I saw fit to certain of his patients in Augustana Hospital. Only those cases were selected whose appearance indicated the need of an hematinic. As often as possible similar cases were paired off, one patient being given one preparation and the other patient another, and the results compared. The cases were paired according to pathological condition, age, sex, general condition and the condition of the blood as to hemoglobin and erythrocytes at the beginning of treatment. The preparations used were malt with iron and manganese; malt with iron, quinin and strychnin; Bland's pills, and the preparation known as pepto-mangan (Gude).

After watching the effect of the medication on the patients, and observing the records, it is seen that Bland's pills acted quickly, but constipated; the malt combinations caused nausea in a few patients, and the malt, manganese and iron combination caused constipation in nearly all. The pepto-

mangan, given in milk, was agreeable to take, and in no case did it cause nausea or constipation. While in two cases the Bland's pills acted more quickly than pepto-mangan in two similar cases, on the whole the latter gave better and quicker results than any of the others, and at the same time caused no digestive disturbances in any of the cases.

Although the investigation was undertaken for the purpose of finding the best hematinic for surgical cases, it was tried in one case of chlorosis and in several obscure medical cases.

The accompanying table shows the results obtained in all those cases where Gude's preparation was given. One to four drams were given in milk to each case three times a day. The hemoglobin was estimated with Von Fleischel's hemometer, and the erythrocyte count made with the Thoma-Zeiss apparatus. The first blood count was made previous to operation in all surgical cases, and the last a short time before the patient's discharge from the hospital. The second count was never made immediately after the operation because of the temporary derangement due to the anesthetic and the loss of blood.

In the nineteen cases tabulated there is an average increase of 800,000 erythrocytes and of 14.5 per cent hemoglobin. The improvement was during forty days on an average. The usual time a patient stays in the hospital is twenty-one days when the case is of ordinary severity from a surgical standpoint. Such cases were placed on tonic treatment and showed rapid improvement, but of such cases only one (Case 16) is noted because it might be urged that they would improve equally as fast with or without a tonic.

It is seen from the table that even in the cachexia of carcinoma there is a temporary improvement, which shows that in the use of this tonic we are dealing with a powerful hematinic. In Case 17 there was no improvement, the patient dying shortly after the last count. At the autopsy I found a pyogenic abscess in the liver as large as an orange and about 200 c.c. of pus below the right kidney, which explained the retrogression. In all of the other operated cases the improvement was steady

Sex and Age.	Diagnosis.	Date.	Erythrocytes per c.c.	% of Hemo-globin.
M ¹ 53	Carcinoma of stomach.	9/29/03	2,920,000	33
		10/12/03	3,400,000	43
		10/25/03	3,260,000	42
		11/8/03	2,520,000	36
" 49	"	10/29/03	2,665,000	27
		11/23/03	2,900,000	28
		12/5/03	2,540,000	27
		12/19/03	2,300,000	26
F 17	Acute menorrhagia.	12/4/03	2,310,000	36
		12/20/03	3,565,000	44
		12/27/03	4,160,000	49
" 33	Menorrhagia.	12/7/03	4,340,000	44
		1/10/04	3,565,000	64
		1/18/04	5,100,000	82
M 23	Neurasthenia(?)	12/16/03	4,060,000	60
		1/7/04	4,260,000	65
		1/14/04	4,560,000	75
" 35	Tuberculosis of mesenteric glands.	11/15/03	3,825,000	62
		12/10/03	4,826,000	68
		1/4/04	4,716,000	66
F 23	Pelvic abscess.	10/25/03	4,060,000	60
		11/23/03	5,100,000	69
		12/11/03	4,975,000	78
" 34	"	12/10/03	3,195,000	53
		12/29/03	4,293,000	58
		1/11/04	4,560,000	78
" 16	Chlorosis.	10/25/03	3,010,000	45
		11/12/03	4,950,000	65
		11/28/03	5,676,000	80
" 40	Myoma of uterus	7/15/03	2,100,000	42
		8/17/03	3,900,000	55
		9/15/03	4,500,000	80
M 13	Tuberculosis of hip.	12/1/03	2,680,000	45
		12/29/03	3,600,000	55
		1/20/04	4,100,000	62
" 21	Tuberculosis of ankle.	10/29/03	4,310,000	66
		11/10/03	4,850,000	71
		1/23/04	5,166,000	75
" 9	Burns and infection of sur face.	11/9/03	3,560,000	50
		11/25/03	3,900,000	56
		1/23/04	4,362,000	68
F 17	Perforative appendicitis.	11/25/03	3,600,000	55
		12/26/03	4,000,000	65
		1/22/04	4,250,000	69
M 29	Suppurative appendicitis.	12/20/03	4,200,000	60
		1/2/04	4,400,000	66
		1/20/04	5,120,000	75
" 28	Chronic appendicitis.	1/2/04	3,565,000	62
		1/10/04	4,320,000	70
		1/23/04	4,800,000	78
" 37	Gangrenous appendicitis.	10/10/03	3,300,000	45
		10/27/03	3,350,000	45
		11/27/03	3,010,000	40
F 29	Empyema.	11/20/03	2,740,000	44
		12/20/03	3,070,000	52
		1/22/04	3,820,000	60
M 44	Cholelithiasis	11/23/03	3,560,000	57
	Chronic ap-pendicitis.	12/4/03	4,100,000	68
		1/12/04	4,640,000	78

¹ Incurable.

and marked, especially in uterine diseases accompanied by loss of blood. In the case of chlorosis (Case 9) the improvement was remarkable, the patient being discharged cured in a little over a month, at which time all the symptoms had disappeared.—Medical News, September 24, 1904.

Sal-Codeia in Pneumonia.

Bell & Co., New York City:

Gentlemen.—Since last spring I have intended reporting to you the results I have had with your Sal-Codeia. My wife had a very severe run of pneumonia, two-thirds of all her lung space being involved without cough or expectoration and an exceedingly high temperature, reaching 105° nearly every day for three weeks and at two or three different times running to 106°. The patient is a frail woman with a very weak heart who had been practically an invalid for years. I prescribed Sal-Codeia, two tablets repeated as necessary to keep the temperature below 103°. Dr.—, of Massachusetts Avenue, who had charge of the case had never used Sal-Codeia and changed to — and tepid sponge baths. This did not reduce the temperature, which was persistently above 105°. He then came back to Sal-Codeia. Later, we had as counsel, Dr.—, who is now in charge of the State Hospital for Consumptives, at Ray Brook. He, at first, advised the cold pack. On his second visit we reported to him that the packs did not bring the temperature down more than 1.5 to 2° and that it very soon came back. He then allowed us to go back to Sal-Codeia with the result (in the latter stage of the disease) that the temperature was brought down 4 or 5° and remained so from five to eight hours.

Through all this disease I failed to discover any depressing effect on the heart. The treatment of this irregular case of pneumonia resolved itself into this, viz., Sal-Codeia to reduce the temperature and produce rest, and forced feeding, the patient taking as much nourishment as seven eggs and two quarts of milk in twenty-four hours, and no other medicine. The patient made full recovery. I have prescribed Sal-Codeia extensively ever since its introduction to the profession and think it is a wonderful remedy. Dr —, 130 Erie Co. Bank Building, Buffalo, N. Y., Oct. 17, 1904.

A Good Book.

We call the attention of our readers to the advertisement of D. J. D. Albright in this issue.

His book is one of the really valuable ones and has, perhaps, done more to awaken the interest of the profession in the line of special work than any other single book. As he offers to refund the price in case the book is not satisfactory to the purchaser, there is nothing to lose, but all to gain. Order it.

